CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue, Chicago, Illinois 60631
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MEMORANDUM

TO:	Ms. Sharon Newlon	REF. NO.:	042192-03
FROM:	Garth Daley/ko/124	DATE:	October 30, 2007
C.C.:	RRG/Clayton Site Technical Committee P. Harvey R. Shepherd B. Schloessler P. Pathak		
RE:	**Status Report # 24 for the Resource Recovery Group/Clayton Chemical Company Site**		

This Status Report is being submitted to the United States Environmental Protection Agency (U.S. EPA) and its designated Federal On-Scene Coordinator (OSC) Kevin Turner in accordance with Section VIII, Condition 19.a. of the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the Resource Recovery Group/Clayton Chemical Soils (RRG/Clayton) Site dated October 28, 2005. The reporting period for this twenty-fourth Monthly Status Report is September 24, 2007, through October 26, 2007.

EFFECTIVE DATE

On November 1, 2005, Ms. Sharon Newlon, the acting counsel for the RRG/Clayton Site Potentially Responsible Party Group (The Respondents), received the AOC. In accordance with Section XXVIII, Condition 76 of the AOC, this date represented the Effective Date for the AOC and started the compliance time clock for the Removal Action. Status Report # 22 was submitted to U.S. EPA on August 31, 2007.

While processing contractor invoices for the project during the reporting period, it was confirmed that the second roll off box containing wood waste was removed from the Site. This waste shipment activity was completed on June 7, 2007. A replacement roll off box was left on Site for future use.

During a review of the project file, it was determined that the version of the Removal Action Completion Report (RACR) that was submitted to U.S. EPA by The Respondents on October 5, 2007 was not the final updated report. Among the information that was updated for the final RACR was the inclusion of the invoiced oversight costs from U.S. EPA for the project, as well as a discussion of the presented U.S. EPA costs. Additionally, adjustments were made in the select quantities from the Conclusion section of the RACR (Section 11.0) to better correlate the presented data to information from the included tables. Specifically, the project total for containers of tank wastes shipped was revised from 183 to 182 to reflect the fact that one drum of PCB-containing materials recovered during the demolition of the distillation tower from the EZ 4 Work Zone (see Table 6.5) was included in the May 10, 2006, drum shipment. Similarly, the tonnage of construction and demolition (C&D) waste was revised from 131 tons to 129 tons to avoid

possible double-counting of the recovered asbestos materials, which was previously reported in the section's bulleted list.

1.0 COMPLETED ACTIVITIES

1.1 PRE-MOBILIZATION, MOBILIZATION AND REMOVAL ACTIVITIES COMPLETED TO DATE

Activities performed during the reporting period were primarily related to the submission of Status Report # 23 and the RACR, and performing miscellaneous administrative tasks related to the project documents and records generated to date. Additional details of the completed tasks are provided for review in this report, as well as in select attachments to this report.

A discussion of the weekly activities appears below:

- During the week of September 24, 2007 (August 24 – August 28, 2007), the primary activities that were performed centered on the development of Status Report # 23 and the RACR. No Site visits were completed during the week of September 24, 2007;
- The key activities completed during the week of October 1, 2007 involved the preparation/finalization and submission of Status Report # 23 on October 1, 2007, and the RACR on October 5, 2007. The Respondents also submitted a proposal to U.S. EPA on October 5, 2007, in response to the existence of sub-surface trenches at the northeast quadrant of the Site. These trenches, which include the one involved with Site activities of June 4 through 6, 2007, were discovered to have been related to former railroad roundhouse operations/activities at the Site. A secondary/subsequent investigation of the area, in addition to reviews of historical Site documents, led to the conclusion that the trenches were backfilled with debris at the time roundhouse operations were discontinued. Based on available information, the trench from which liquid removal activities took place on June 5, 2007, would be the only trench that contained liquid materials. Photographs taken during the additional area investigation were provided to U.S. EPA for review as part of the proposed actions. No Site visits were initiated during the week of October 1, 2007;
- For the week of October 8, 2007, the primary focus of Site-related activities was the development of a response to OSC Turner's request for clarification of the polychlorinated biphenyl (PCB) concentrations reported for the materials recovered from the former roundhouse trench on June 5, 2007. A preliminary response was provided on October 11, 2007, with a more detailed response being submitted on October 12, 2007. No on Site activities were performed during the week;
- During the week of October 15, 2007, the primary Site-related action was the provision of an electronic copy of the RACR text to START Tom Binz by The Respondents on October 19, 2007; and
- The continuation of the dialog between The Respondents and START Binz was the primary activity for the week of October 22, 2007. START Binz was contacted on October 25, 2007 to follow up on the October 19, 2007, electronic mail message, and was additionally told that no imminent on-Site activities were pending. As with previous weeks during the reporting period, no Site visits were scheduled or completed during the week.

Additional details of the completed activities, including Site maps, are provided in the form of the Weekly Summary Reports that are included as Appendices to this report. Those reports are presented as follows: Appendix A – Weekly Summary of Site Activities for September 24 – 28, 2007; Appendix B – Weekly Summary of Site Activities for October 1 – 5, 2007; Appendix C – Weekly Summary of Site Activities for October 8 - 12, 2007; Appendix D – Weekly Summary of Site Activities for October 15 – 19, 2007; and Appendix E – Weekly Summary of Site Activities for October 22 – 26, 2007.

1.2 SAMPLING AND ANALYSIS

Severn Trent Laboratories (STL) of St. Louis, Missouri replaced RTI Laboratories of Livonia, Michigan (RTI) as the laboratory of record for the Removal Action as requested by The Respondents. This request was approved by OSC Turner on April 20, 2006. However, TEK-Lab, Inc. of Collinsville, Illinois (TEK-Lab) has been used for the performance of waste characterization sample analysis to assist with/complete waste disposal activities.

No samples were collected during the reporting period. Also, no analytical data from previously collected samples were received during the reporting period.

1.3 REMOVAL ACTION WORK

Several actions have been undertaken towards completing the Removal Action at the RRG/Clayton Chemical Site during the reporting period. An outline of the completed actions was discussed above in Section 1.1 of this report. Additional details of the activities performed are presented in the Weekly Activity Summaries included as Appendices A through E of this report. As discussed earlier/previously in this report, the RACR text has been updated slightly from the version provided to U.S. EPA on October 5, 2007. A copy of this updated RACR text is provided as Appendix F of this report.

2.0 ENCOUNTERED PROBLEMS, RESOLUTIONS, AND ANTICIPATED PROBLEMS

No significant technical problems were encountered during the reporting period. Similarly, no technical problems or issues are anticipated for the upcoming period.

3.0 ANALYTICAL DATA GENERATED/RECEIVED

As stated in Section 1.2, no analytical data were received during the reporting period.

4.0 ANTICIPATED ACTIVITIES FOR UPCOMING REPORT PERIOD

4.1 SITE PLANS

During the upcoming reporting period (October 29, 2007, through November 23, 2007), the following activities are anticipated:

- Oversight of the second round of groundwater sampling from the Sauget Area 2 well cluster located along the western Site boundary;
- Oversight of the installation of a six foot high chain link fence along the south edge of the Site. The planned fence will replace the existing 3 ½ foot high fence that is currently in place. Prior to the start of the installation activity, the removal of vegetative growth and any debris will be performed;
- Miscellaneous Site cleanup activities will be completed, as needed, based on the progress of the activities discussed above and weather conditions; and
- Site restoration activities will be completed, as needed.

4.2 SAMPLING AND ANALYSIS

As a result of Site/well access questions, the proposed groundwater sampling event that was discussed in Status Report #23 has been postponed. Once the issue has been resolved, a mutually convenient sampling timeframe will be established and appropriate arrangements made. CRA will provide oversight of this sampling event on behalf of The Respondents, as well as collect sample splits.

4.3 REMOVAL ACTION WORK

Among the activities expected to be performed and/or completed during the upcoming report period are the installation of an improved fence along the south property boundary, and limited Site restoration activities. An anticipated schedule for these activities appears below.

5.0 ANTICIPATED SCHEDULE

Activity	*Duration*	*Expected Start Date*
Continue Stormwater Control Measures	As needed/ongoing	October 29, 2007
Continue Technical Design and Construction Scheduling of Profile of the Landfill Cap	Ongoing/30 days	October 29, 2007
Initiate Fence Installation Activities	5 days	November 12, 2007
Initiate Site Restoration Activities	Ongoing/30 days	November 12, 2007
Submit Status Report # 25	1 day	November 31, 2007

Attachments

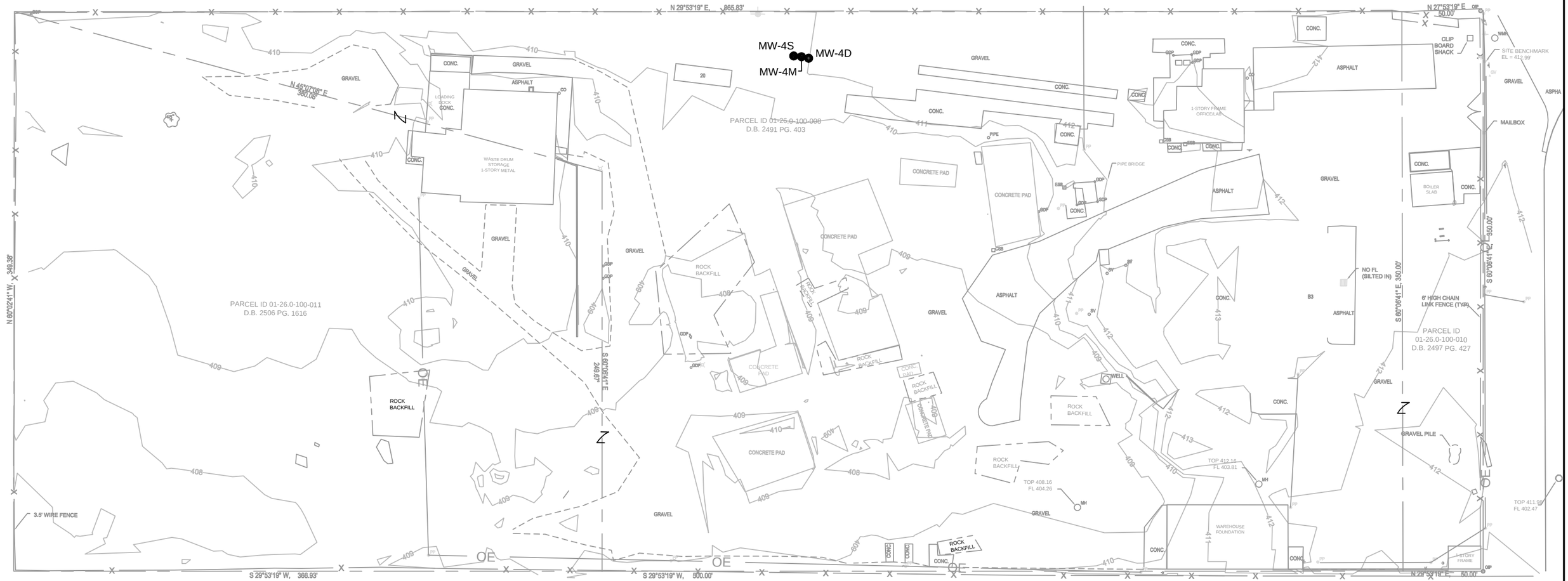

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX A

WEEKLY SUMMARY OF SITE ACTIVITIES FOR SEPTEMBER 24 – 28, 2007

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO: RRG/Clayton Chemical Site Technical Committee

REF. NO.: 042192-03

FROM: Garth Daley/lg/119

DATE: October 26, 2007

C.C.: Sharon Newlon
P. Harvey
R. Shepherd
B. Schloessler
P. Pathak

RE: Weekly Summary Of Site Activities For September 24 – 28, 2007

Site activities began at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site on Monday, December 5, 2005. These activities are in response to the Solids Removal Action as mandated by the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the RRG/Clayton Chemical Soils Site, dated October 28, 2005. A summary of the activities completed during the ninety-fifth week (the period September 24 through 28, 2007) is presented below.

Date	*Tasks*	*Activity*
September 24, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
September 25, 2007	Mobilization Activities	No activity

Date	*Tasks*	*Activity*
September 25, 2007	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920′ of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
September 26, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920′ of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
September 27, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006

Date	*Tasks*	*Activity*
September 27, 2007	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
September 28, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity

If you have any questions about the information provided in this memorandum, please contact Garth Daley (773-380-9239 or 708-203-8672), or Phil Harvey (773-380-9246) for clarification.

Attachment

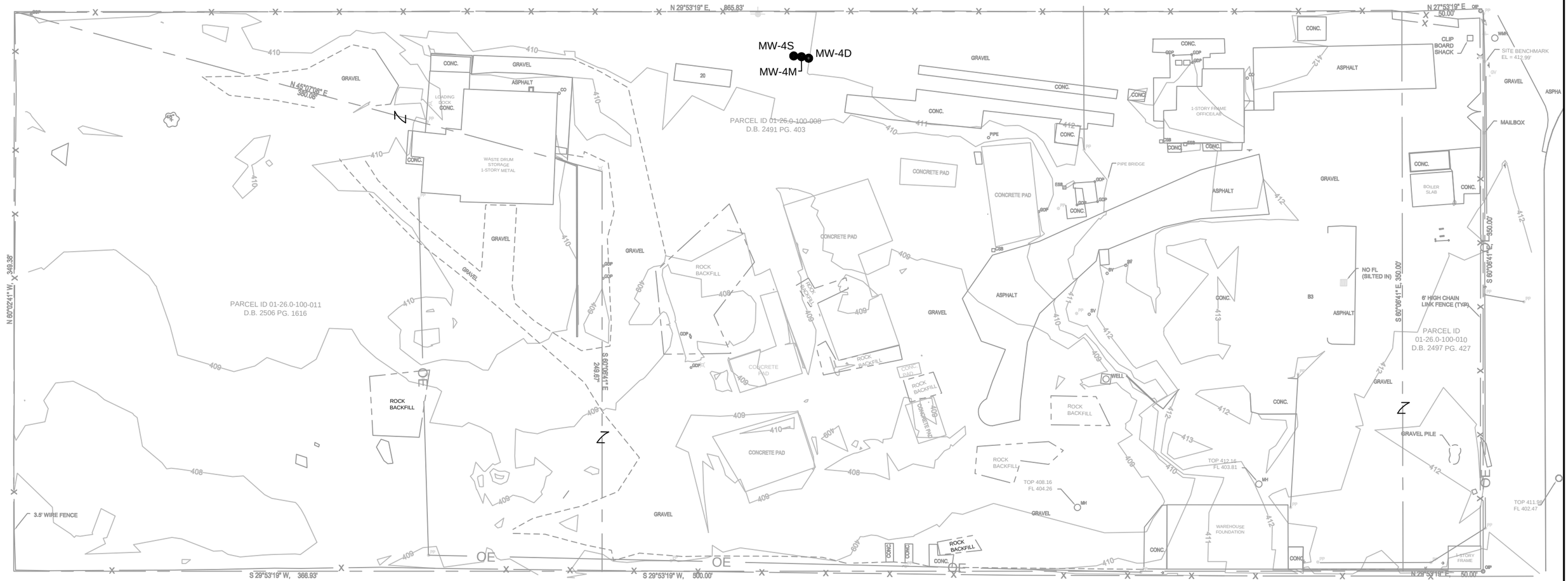

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX B

WEEKLY SUMMARY OF SITE ACTIVITIES FOR OCTOBER 1 – 5, 2007

CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue, Chicago, Illinois 60631
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www.CRAworld.com

MEMORANDUM

TO: RRG/Clayton Chemical Site Technical Committee

REF. NO.: 042192-03

FROM: Garth Daley/lg/120

DATE: October 29, 2007

C.C.: Sharon Newlon
P. Harvey
R. Shepherd
B. Schloessler
P. Pathak

RE: Weekly Summary Of Site Activities For October 1 – 5, 2007

Site activities began at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site on Monday, December 5, 2005. These activities are in response to the Solids Removal Action as mandated by the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the RRG/Clayton Chemical Soils Site, dated October 28, 2005. A summary of the activities completed during the ninety-sixth week (the period October 1 through 5, 2007) is presented below.

Date	*Tasks*	*Activity*
October 1, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. The Respondents submitted Status Report # 23 to U.S. EPA
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 2, 2007	Mobilization Activities	No activity

Date	*Tasks*	*Activity*
October 2, 2007	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 3, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 4, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. The Respondents were contacted by OSC Turner regarding his review of the proposed landfill cap profile
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006

Date	*Tasks*	*Activity*
October 4, 2007	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 5, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. The Respondents submitted a Removal Action Completion Report to U.S. EPA to document completed actions at the Site. Several photographs from a secondary investigation of the former railroad roundhouse trenches were also submitted to U.S. EPA by The Respondents for review
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity

If you have any questions about the information provided in this memorandum, please contact Garth Daley (773-380-9239 or 708-203-8672), or Phil Harvey (773-380-9246) for clarification.

Attachment

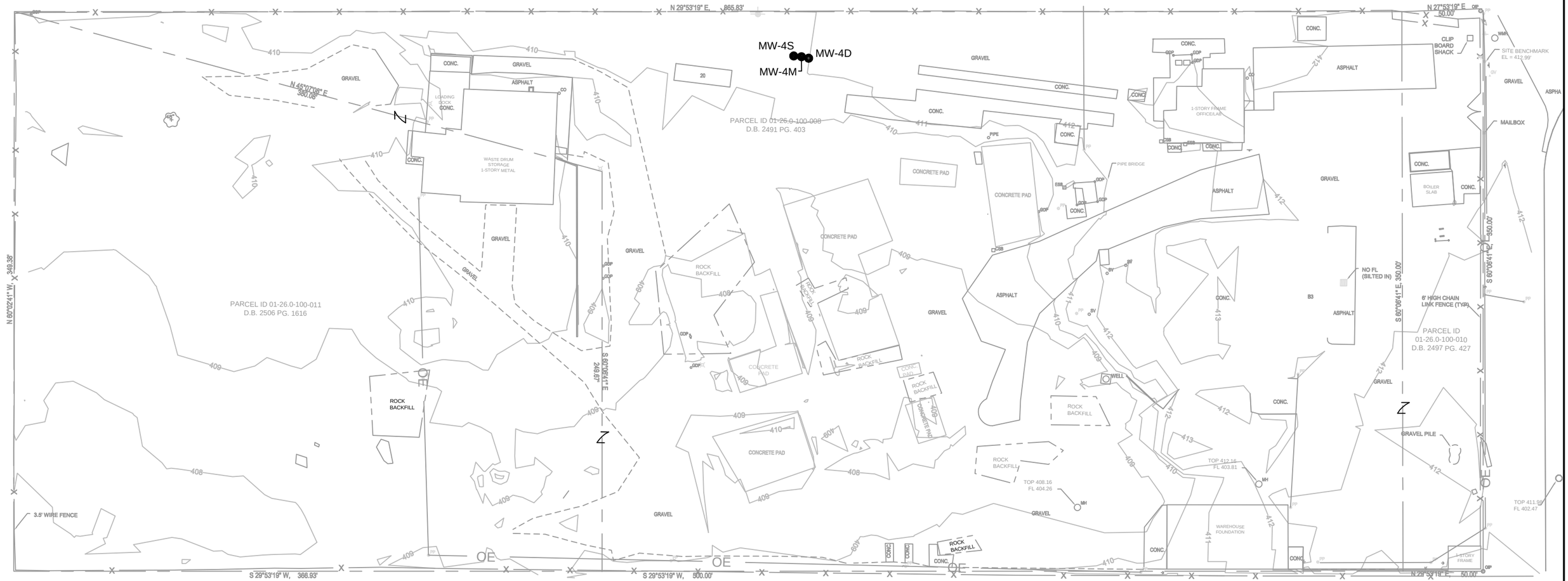

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX C

WEEKLY SUMMARY OF SITE ACTIVITIES FOR OCTOBER 8 – 12, 2007

CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue, Chicago, Illinois 60631
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www.CRAworld.com

MEMORANDUM

TO: RRG/Clayton Chemical Site Technical Committee

REF. NO.: 042192-03

FROM: Garth Daley/lg/121

DATE: October 26, 2007

C.C.: Sharon Newlon
P. Harvey
R. Shepherd
B. Schloessler
P. Pathak

RE: Weekly Summary Of Site Activities For October 8 – 12, 2007

Site activities began at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site on Monday, December 5, 2005. These activities are in response to the Solids Removal Action as mandated by the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the RRG/Clayton Chemical Soils Site, dated October 28, 2005. A summary of the activities completed during the ninety-seventh week (the period October 8 through 12, 2007) is presented below.

Date	*Tasks*	*Activity*
October 8, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 9, 2007	Mobilization Activities	No activity

Date	*Tasks*	*Activity*
October 9, 2007	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 10, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 11, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. The Respondents and U.S. EPA attempted to schedule of a conference call to discuss outstanding Site issues
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006

Date	*Tasks*	*Activity*
October 11, 2007	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 12, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. The Respondents submitted additional details to U.S. EPA in response to questions raised by OSC Turner about responding to the former railroad roundhouse trenches located at the northeastern quadrant of the Site
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
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	Miscellaneous	No activity

If you have any questions about the information provided in this memorandum, please contact Garth Daley (773-380-9239 or 708-203-8672), or Phil Harvey (773-380-9246) for clarification.

Attachment

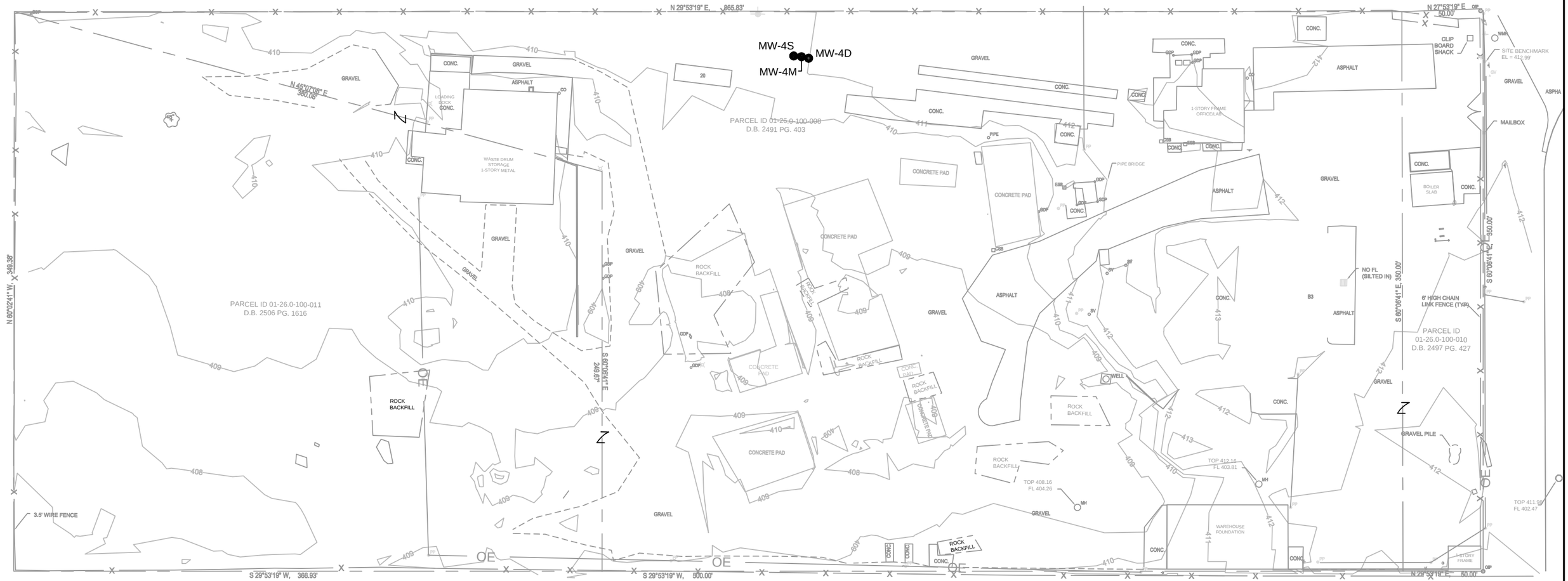

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX D

WEEKLY SUMMARY OF SITE ACTIVITIES FOR OCTOBER 15 – 19, 2007

CONESTOGA-ROVERS & ASSOCIATES

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MEMORANDUM

TO:	RRG/Clayton Chemical Site Technical Committee	REF. NO.:	042192-03
FROM:	Garth Daley/lg/122	DATE:	October 26, 2007
C.C.:	Sharon Newlon P. Harvey R. Shepherd B. Schloessler P. Pathak		

RE: Weekly Summary Of Site Activities For October 15 – 19, 2007

Site activities began at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site on Monday, December 5, 2005. These activities are in response to the Solids Removal Action as mandated by the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the RRG/Clayton Chemical Soils Site, dated October 28, 2005. A summary of the activities completed during the ninety-eighth week (the period October 15 through 19, 2007) is presented below.

Date	*Tasks*	*Activity*
October 15, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 16, 2007	Mobilization Activities	No activity

Date	*Tasks*	*Activity*
October 16, 2007	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 17, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
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	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 18, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007

Date	*Tasks*	*Activity*
October 18, 2007	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 19, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. CRA contacted START Tom Binz to provide a routine project update. An electronic copy of the Removal Action Completion Report text was also forwarded to START Binz
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity

If you have any questions about the information provided in this memorandum, please contact Garth Daley (773-380-9239 or 708-203-8672), or Phil Harvey (773-380-9246) for clarification.

Attachment

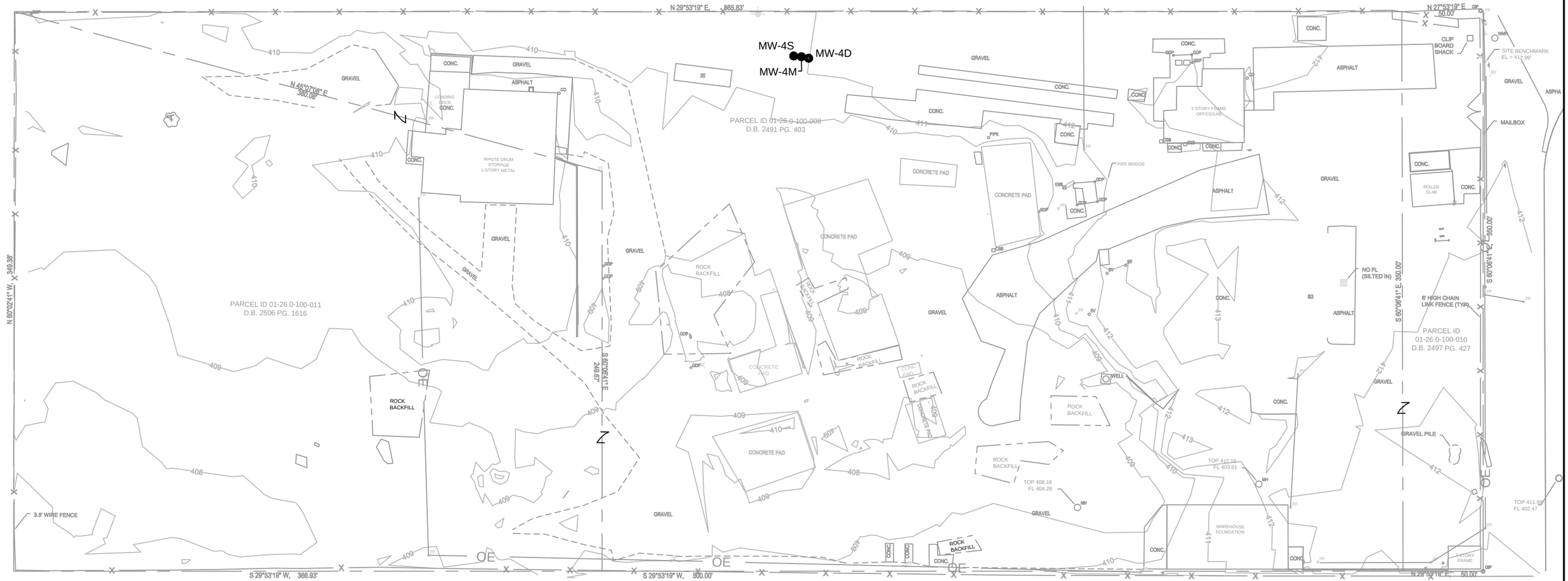

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX E

WEEKLY SUMMARY OF SITE ACTIVITIES FOR OCTOBER 22 – 26, 2007

CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue, Chicago, Illinois 60631
Telephone: (773) 380-9933 Fax: (773) 380-6421
www.CRAworld.com

MEMORANDUM

TO: RRG/Clayton Chemical Site Technical Committee

REF. NO.: 042192-03

FROM: Garth Daley/lg/123

DATE: October 26, 2007

C.C.: Sharon Newlon
P. Harvey
R. Shepherd
B. Schloessler
P. Pathak

RE: Weekly Summary Of Site Activities For October 22 – 26, 2007

Site activities began at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site on Monday, December 5, 2005. These activities are in response to the Solids Removal Action as mandated by the Administrative Settlement Agreement and Order on Consent (AOC) for Removal Action for the RRG/Clayton Chemical Soils Site, dated October 28, 2005. A summary of the activities completed during the ninety-ninth week (the period October 22 through 26, 2007) is presented below.

Date	*Tasks*	*Activity*
October 22, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 23, 2007	Mobilization Activities	No activity

Date	*Tasks*	*Activity*
October 23, 2007	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No on Site activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 24, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 25, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities. CRA contacted START Tom Binz to provide a routine project update, and to follow up on the October 19, 2007 electronic mail message that included an electronic copy of the Removal Action Completion Report text
	Site Preparation	No activity

Date	*Tasks*	*Activity*
October 25, 2007	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
	Soil Sampling/Excavation	No activity. Soil removal and area restoration activities were completed on February 7, 2007
	Miscellaneous	No activity
October 26, 2007	Mobilization Activities	No activity
	Project Coordination	No on Site START presence due to no scheduled on Site activities
	Site Preparation	No activity
	Asbestos Abatement	No activity. Abatement activities were completed on December 13, 2005 and the removed ACM was shipped off Site on February 8, 2006
	AST Sampling/Cleaning Removal	No on Site activity. Tank removal/disposal activities were completed on March 30, 2007
	Drum Characterization/Disposal	No on Site activity. Drum shipment activities were completed on March 30, 2007
	Piping Draining/Disconnection	No activity. To date roughly 3,920' of piping have been removed and shipped off Site
	Process Equipment Decommissioning	No activity. The removal of process equipment from the Site was completed on March 14, 2006
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If you have any questions about the information provided in this memorandum, please contact Garth Daley (773-380-9239 or 708-203-8672), or Phil Harvey (773-380-9246) for clarification.

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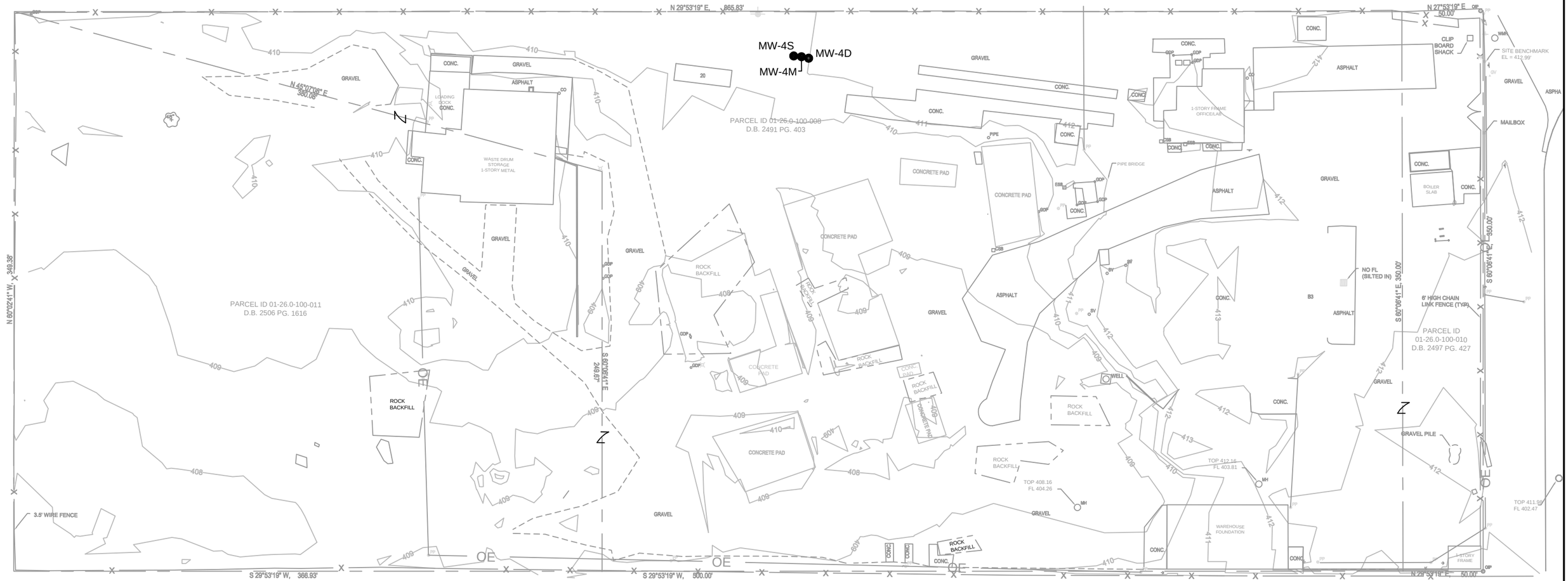

figure 1

CURRENT SITE CONDITIONS
RRG/CLAYTON CHEMICAL
Sauget, Illinois

APPENDIX E

REVISED REMOVAL ACTION COMPLETION REPORT TEXT

REMOVAL ACTION COMPLETION REPORT
(Administrative Settlement Agreement Docket No.: V-W-05-C-829)

RESOURCE RECOVERY GROUP/CLAYTON CHEMICAL SITE
SAUGET, ILLINOIS

Prepared by:
Conestoga-Rovers & Associates

8615 West Bryn Mawr
Chicago, Illinois 60631
Office: (773) 380-9933
Fax: (773) 380-6421

web: http:\\www.CRAworld.com

OCTOBER 2007
REF. NO. 042192 (5)

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(Following Text)

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(Following Text)

LIST OF APPENDICES

GLOSSARY

ACM	Asbestos-containing material(s)
AOC	Administrative Order on Consent
ARAR	Applicable or Relevant and Appropriate Requirement
ARARs	Applicable or Relevant and Appropriate Requirements
AST	Aboveground Storage Tank
ASTs	Aboveground Storage Tanks
BMPs	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
COC	Contaminant of Concern
COCs	Contaminants of Concern
CRA	Conestoga-Rovers & Associates, Inc.
EQ	Environmental Quality Company
H&S	Health and Safety
HASP	Health and Safety Plan
HSO	Health and Safety Officer
IAC	Illinois Administrative Code
IEPA	Illinois Environmental Protection Agency
LRA	Liquids Removal Action
LRR	Liquids Removal Report
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NESHAP	National Emission Standards for Hazardous Air Pollutants
NPDES	National Pollutant Discharge Elimination System
O&G	O'Brien & Gere Engineers, Inc.
OSC	Federal On-Scene Coordinator
PID	Photo-ionization Detector
PPE	Personal Protective Equipment
PRG	Preliminary Remediation Goal
PRP	Potentially Responsible Party
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
QMP	Quality Management Plan
RA	Removal Action
RACR	Removal Action Completion Report
RAR	Removal Assessment Report
RAWP	Removal Action Work Plan
RCRA	Resource Conservation and Recovery Act
RFP	Request For Proposals
RRG	Resource Recovery Group
RSE	Removal Site Evaluation

GLOSSARY

Solids Settlement Agreement	October 28, 2005 Administrative Settlement Agreement and Order On Consent
SSO	Site Safety Officer
SVOC	Semivolatile Organic Compound
SVOCs	Semivolatile Organic Compounds
SWPPP	Storm Water Pollution Prevention Plan
TACO	Tiered Approach to Corrective Action Objectives
TCLP	Toxicity Characteristic Leachate Procedure
The Respondents	RRG/Clayton Chemical Site PRP Group (Listed in Attachment A of the Solids Settlement Agreement)
TSCA	Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

This Removal Action Completion Report (RACR) is submitted to the United States Environmental Protection Agency (U.S. EPA) and the Illinois Environmental Protection Agency (IEPA) to document the removal activities at the Resource Recovery Group/Clayton Chemical Company Site (Site) for the period of December 5, 2005 to June 29, 2007. These activities were performed to satisfy the requirements of the October 28, 2005 Administrative Settlement Agreement and Order on Consent (Solids Settlement Agreement) issued to address the presence of solid materials located at the Site.

The Site is located at 1 Mobile Street in Sauget, St. Clair County, Illinois. Located in a heavily industrial area, the Site encompasses a 7-acre parcel of land and lies in a section of the American Bottoms flood plain of the Mississippi River. GM&O Railroad (GM&O) owned the Site until 1980, when the property was sold to Clayton Chemical Company (Clayton). Operations by GM&O consisted of the repair and maintenance of locomotives, and ended in 1958. Reidy & Sons began operating a crude oil topping operation at the Site in 1958 after GM&O ended locomotive repair activities. The roundhouse facility where GM&O operations were conducted, and which was used by Reidy & Sons for a period, was taken out of service in November 1959.

The Site subsequently housed as a waste oil and used solvents recycling and recovery facility under a succession of different operating entities through 1998. The primary operating entities were Clayton (1965 through 1996) and the Resource Recovery Group (1996 through 1998). Secondary operating entities involved with the Site following GM&O's involvement as the active Site operator include, but are not limited to, Sigma Chemicals and Trade Waste Incineration (TWI). The IEPA forced the facility to shut down in August 1998 due to failure by the Resource Recovery Group (RRG) to implement the requirements of a Consent Order. The timing of the facility closure resulted in the situation where drummed inventory was left unprocessed and material was left inside tanks, process equipment, and process piping.

The IEPA asked U.S. EPA to become involved with facility closure activities at the time operations terminated in 1998. Subsequently, U.S. EPA issued an internal Action Memorandum in 1998 which called for a Site Assessment to be performed. A Removal Site Evaluation (RSE) was completed from June 5 to 7, 2001, by personnel from the Roy F. Weston, Inc. (Weston), Project Resources, Inc. (PRI) Superfund Technical Assessment and Response Team (START). Based on the analytical results from the collected environmental samples and observed Site conditions during the RSE, Weston START indicated that a Removal Action (RA) was warranted. The U.S. EPA Region V then

issued two (2) Administrative Orders for the facility. The first (Docket #V-W-'03-C-720), issued on October 8, 2002, was to address the presence of liquids in drums, process equipment, and tanks at the Site, and the subsequent Liquid Removal Action (LRA) was completed from August 2003 through May 2004.

The second Order (the Solids Settlement Agreement) was issued on October 28, 2005 after a Scope of Work had been negotiated between the U.S. EPA and the RRG/Clayton Solids Removal Group. Acknowledgement of the satisfactory completion of the LRA was granted by U.S. EPA through the discussion of the completion timeframe in Section VI – Finding of Fact subparagraph 9.k on page 5 of the Solids Settlement Agreement. This second Order (Docket #V-W-'05-C-829) mandated the performance of the "Solids Removal Action (Solids RA)" for the removal of process equipment, tanks, tank sludges, drummed solids, and specific impacted soils located near process equipment that had been identified during the RSE. The work to be completed under the Solids RA was set forth in the work plan appended to the Solids Settlement Agreement.

Conestoga-Rovers and Associates (CRA) and Brandenburg Industrial Services Company of Chicago, Illinois (Brandenburg) mobilized to the Site on December 5, 2005 to undertake the Scope of Work (Work Plan) for the Solids RA. The following actions were completed at the RRG/Clayton Site from December 2005 through June 2007 to satisfy the requirements of the October 28, 2005 Solids Settlement Agreement:

- Development and implementation of a Site Health and Safety Plan. Plan development was completed on November 15, 2005, with Plan implementation beginning on December 5, 2005;
- Development and implementation of a Site Security Plan. Plan development was completed on November 15, 2005, with Plan implementation beginning on December 5, 2005;
- Characterization, removal and proper disposal of Site wastes. This was completed between December 5, 2005 and June 6, 2007. Compliance details are provided in Appendix A of this report;
- Other activities as required by this Settlement Agreement. These were completed between December 5, 2005 and June 6, 2007. Compliance details are provided in Appendix A of this report; and
- Other activities incidental to the completion of the Removal Action as directed by the Federal On-Scene Coordinator (OSC). These activities are documented in Section 7.0 and Appendix A of this report.

In complying with the requirements of the Solids Settlement Agreement, CRA and Brandenburg also satisfied the conditions of the Removal Action Work Plan (RAWP) as follows:

- Completion of pre-mobilization activities. These were satisfied prior to the December 5, 2005 mobilization date and included the submission on November 15, 2005, of the Site-specific Health and Safety Plan (HASP);
- Site mobilization/Site preparation. Site mobilization was achieved on December 5, 2005, with Site preparation activities being primarily completed by December 9, 2005;
- Completion of surface waste removal activities. This was achieved by March 30, 2007 with the shipment of the last of the drummed waste from the Site. More than 280 containers (more than 435.2 tons) of wastes were shipped from the Site during the completion of the solids removal activities. More than 3,200 feet of above ground process piping was removed during the Solids RA and shipped off-Site for recycling. Additional quantities of demolition debris were also assembled and shipped off Site during the completion of the Solids RA;
- Completion of subsurface waste removal activities. This was achieved by February 7, 2007 with the shipment of the last load of impacted soils from the Site. A total of over 3,900 tons of soils were excavated during the completion of these removal activities. Approximately 700 feet of below ground piping was removed during the Solids RA and shipped off-Site for recycling. However, additional below ground piping was discovered and left in place after it was determined that those pipes did not contain any residual liquids, solids or sludges;
- Demobilization from the Site. Brandenburg demobilized from the Site on February 7, 2007; and
- Development of a Removal Action Report. Submission of this report satisfies that requirement.

Details on compliance with the Solids Settlement Agreement and the RAWP requirements are provided in each of the monthly reports submitted to U.S. EPA throughout the project. Appendix A of this report contains copies of those reports. Copies of the various waste shipment and disposal documentation generated during the completion of the Solids RA are enclosed as Appendix B.

Other activities were also completed during the execution of the Solids RA and are discussed within this report. These include activities not directly linked to the

requirements of the Solids Settlement Agreement that were performed between March 1, 2007 and June 29, 2007. Among those activities were the observation of the installation of groundwater monitoring wells at the Site; the demolition of a free standing loading dock, including disposal of material from the structure; removal of subsurface liquids discovered at the Site; and completion of an inspection of the loading dock associated with the Waste Drum Storage Building (Drum Building).

As of June 24, 2007, the following amounts have been invoiced for the RRG/Clayton RA activities:

Brandenburg	$	2,523,972.53
CRA	$	666,432.49
Group Counsel	$	520,406.39
U.S. EPA Oversight Charges	$	664,142.33 (through October 2006)

As such, the total project expenditures through June 29, 2007 are $4,374,953.74. Also, additional charges are expected for completed and projected activities, but those amounts cannot be accurately estimated at this time.

1.0 INTRODUCTION AND BACKGROUND

This Removal Action Completion Report (RACR) is submitted to the United States Environmental Protection Agency (U.S. EPA) and the Illinois Environmental Protection Agency (IEPA) to document the completion of solids removal activities implemented at the Resource Recovery Group/Clayton Chemical Company (RRG/Clayton) Site from December 5, 2005 to June 29, 2007. CRA has prepared the report on behalf of the RRG/Clayton Solids Removal Group (The Respondents). This section of the report provides a general background related to the Solids RA performed at the RRG/Clayton Site from December 2005 through June 2007.

1.1 ORGANIZATION OF THIS REPORT

The Report is organized as follows:

- Section 1.0 Introduction and Background
- Section 2.0 Scope of Work for Removal Action
- Section 3.0 Performance Standards and Construction Quality Control
- Section 4.0 Project Organization
- Section 5.0 Health and Safety
- Section 6.0 Removal Activities Completed at the Site
- Section 7.0 Additional Site Activities Completed
- Section 8.0 Current Site Conditions
- Section 9.0 Soil and Waste Sampling
- Section 10.0 Problems Encountered/Unforeseen Circumstances
- Section 11.0 Conclusion
- Section 12.0 Certification

1.2 OVERVIEW

The RACR presented herein has been developed in accordance with the U.S. EPA approved work plan entitled "Removal Action Work Plan (RAWP), Resource Recovery Group/Clayton Chemical Site, Sauget, Illinois", dated October 2005. The RAWP was

prepared to satisfy the elements of the outline approved by U.S. EPA Region V Federal On-Scene Coordinator (OSC) Kevin Turner on June 27, 2005.

In general, this Report provides the following:

- A summary of the implementation of a Site-specific health and safety program;
- A summary of all solids removal activities performed;
- Analytical data generated during performance of solids removal activities;
- A summary of all transport and disposal activities performed in conjunction with the solids removal activities;
- A description of additional tasks and activities completed at the Site during the completion of the solids removal activities; and
- A description of the Site conditions remaining at the conclusion of the solids removal activities.

1.3 SITE LOCATION

The Site is located at 1 Mobile Street in Sauget, St. Clair County, Illinois. The location of the Site is shown on Figure 1.1. Site coordinates are latitude 38° 35' 50" and longitude 90° 10' 55". The Site is located in a heavily industrial area, encompasses a 7-acre parcel of land, and lies in a section of the American Bottoms flood plain of the Mississippi River that is protected by a River levee. Site facilities and structures before removal activities began are shown on Figure 1.2.

1.4 BACKGROUND

The Site was owned by GM&O Railroad (GM&O) until 1980. Site operations under GM&O consisted of the repair and maintenance of locomotives until 1958. The roundhouse structure where the GM&O activities were conducted was taken out of service in November 1959. Reidy & Sons conducted a crude oil topping operation at the Site beginning in 1958. The Site was then operated as a waste oil and used solvents recycling and recovery facility through 1998 under two different operating entities - Clayton Chemical Company (1965 through 1996) and the Resource Recovery Group (1996 through 1998). Secondary activities were also conducted at the Site by Sigma Chemicals (Sigma) and Trade Waste Incineration (TWI) during this period.

In January 1995, Clayton entered into a Consent Order with the IEPA to address operational violations at the Site. In the Spring of 1996, the Site was sold to the Resource Recovery Group (RRG). According to the July 15, 2004 Liquids Removal Report (LRR) developed by O'Brien & Gere Engineers, Inc. of Farmington Hills, Michigan (O&G) to document completed liquid removal activities at the Site, RRG continued to operate the facility similarly to Clayton. The IEPA forced the facility to shut down in August 1998 due to their failure to implement requirements of the Consent Order. The timing of the facility closure resulted in the situation where drummed inventory was left unprocessed and material was left inside tanks, process equipment, and process piping.

The IEPA asked U.S. EPA to become involved with facility closure activities at the time operations terminated in 1998. Subsequently, U.S. EPA issued an internal Action Memorandum in 1998 which called for a Site Assessment to be performed. In 2001, the U.S. EPA tasked Roy F. Weston, Inc. (Weston), Project Resources, Inc. (PRI) Superfund Technical Assessment and Response Team (START) to perform a Removal Site Evaluation (RSE) under Technical Direction Document (TDD) S05-0105-009. The RSE was conducted June 5 to 7, 2001 and included soil and groundwater sampling; air monitoring; and hazardous waste categorization (hazcat) of drums, tanks, and small container contents. Other RSE activities included inventorying Site materials, documenting site activities, and reviewing analytical data. Twenty-two soil samples and ten groundwater samples were collected during the RSE. The findings of the RSE were presented in a September 6, 2001 Removal Assessment Report (RAR). Sample results presented in the RAR indicated the presence of hazardous liquids and elevated levels of soil contaminants at various locations on the Site. Identified hazards discussed in the RAR included spent solvents, ignitable waste, lead, chromium, arsenic, and polychlorinated biphenyls (PCBs). The overall conclusion presented in the RAR was that the liquids and soil contamination at the RRG/Clayton Site posed an immediate threat to human health and the environment.

On October 8, 2002, the U.S. EPA issued a CERCLA Section 106 Administrative Order on Consent (AOC) for the removal of hazardous liquid substances stored at the Site. A Potentially Responsible Party (PRP) Liquids Removal Group was created from parties who had sent liquid wastes to the Site in the years shortly before IEPA closed the Site. The purpose of this PRP Group was to perform the removal of liquid hazardous substances, a task which was completed between 2003 and 2004. According to the July 2004 LRR created to document the liquid removal action activities, approximately 40,500 gallons of solids were present in aboveground storage tanks (ASTs) and drums

following the completion of liquid removal activities. The report also stated that 122 drums of solid waste were present at the Site.

1.5 CHRONOLOGY OF EVENTS

A chronology of major removal and decontamination events (milestones) is provided below. This chronology is not intended to identify all the activities that occurred, but is presented only to provide a summary of major milestones and notable removal activities.

Date	*Milestone Event*
June 5 to 7, 2001	U.S. EPA conducted an RSE
September 7, 2001	RAR submitted to U.S. EPA by Weston
October 8, 2002	U.S. EPA issued Administrative Order on Consent prompting the initiation of the Liquid Removal Action (LRA)
August 4, 2003	LRA mobilization activities begin
May 17, 2004	LRA activities are completed
July 15, 2004	Liquid Removal Report is finalized
October 21, 2005	RAWP was submitted to U.S. EPA
October 28, 2005	U.S. EPA issues the finalized Administrative Settlement Agreement and Order On Consent (Solids Settlement Agreement) for the RRG/Clayton Site. The Solids Settlement Agreement (Docket #V-W-05-C-829) incorporates the RAWP
November 1, 2005	The Respondents receive the Solids Settlement Agreement. Per U.S. EPA, this is the "Effective Date" for the Solids Settlement Agreement
November 8, 2005	In accordance with Section VII, Condition 12 of the Solids Settlement Agreement, The Respondents informed U.S. EPA that CRA was selected as Project Coordinator

November 16, 2005	In accordance with Section VII, Condition 11 of the Solids Settlement Agreement, The Respondents informed U.S. EPA that Brandenburg had been selected as the Removal Contractor
December 5, 2005	CRA and Brandenburg mobilized to the Site to begin the Solids RA activities
January 18, 2006	Soil excavation activities begin with the implementation of the paint waste confirmation activities
February 8, 2006	Waste shipment activities begin with the shipment of non-hazardous debris and Asbestos-containing material (ACM) to Milam Landfill
March 15, 2006	Quality Assurance Project Plan (QAPP) submitted to U.S. EPA
March 20, 2006	Soil excavation and subsequent confirmatory soil sampling activities were initiated
May 10, 2006	Hazardous material shipment, in the form of 82 drums of hazardous and non-hazardous waste, begins
May 19, 2006	On-Site activities are temporarily suspended pending a soil management decision to address the mixed Resource Conservation and Recovery Act (RCRA)/Toxic Substances Control Act (TSCA) soils generated during soil excavation activities
September 29, 2006	CRA, Brandenburg, and ReSolution Partners (ReSolution) remobilize to the Site to begin soil disposal activities for TSCA soils and chemical oxidation/stabilization for RCRA/TSCA soils
October 3, 2006	Chemical treatment of Site soils begins with lead stabilization activities for the Stockpile #2 (hazardous lead and PCBs) material
November 20, 2006	Chemical oxidation of the RCRA/TSCA soils begins
February 7, 2007	Shipment of the excavated (treated and untreated, non-loading dock) soils is completed. Brandenburg temporarily demobilizes from the Site

March 6, 2007	Shipment of the EZ 4 loading dock soils begins
March 30, 2007	Shipment of the final load of RAWP waste is completed. Shipment of the EZ 4 loading dock soils is also completed
June 4, 2007	CRA and Brandenburg mobilize to the Site for liquid removal and loading dock related activities
June 5, 2007	Subsurface liquid removal activities at the northeast portion of the Site are completed
June 6, 2007	Investigation activities related to the Waste Drum Storage Building loading dock are completed
June 29, 2007	End of Reporting Period for Removal Action Completion Report

1.6 REMEDIAL ACTION GOALS AND OBJECTIVES

Site activities were carried out in a manner consistent with the National Oil and Hazardous Substances Contingency Plan (NCP), as presented in Title 40 of the Code of Federal Regulations Part 300 (40 CFR 300).

The specific Preliminary Remediation Goals (PRGs) used for evaluating the soil remedial components are the IEPA Tiered Approach to Corrective Action Objective (TACO) Soil Remediation Objectives (SROs) for Industrial/Commercial Properties (TACO Industrial SROs).

In completing the Solids RA activities at the RRG/Clayton Site, several objectives had to be met. Primary among these objectives were:

- To comply with the conditions of the Solids Settlement Agreement;
- To perform all activities in a manner that was protective of human health and the environment; and
- To complete the mandated actions in the most safety conscious and fiscally responsible manner possible.

2.0 SCOPE OF WORK FOR REMOVAL ACTION

This section presents the general tasks that were to be addressed during the completion of the Solids RA activities at the RRG/Clayton Site. They are shown below by the document or source of the tasks. The various tasks and key subtasks that were completed or that were complied with during the Solids RA are also presented in each subsection.

2.1 SOLIDS SETTLEMENT AGREEMENT REQUIREMENTS

Section VIII, Condition 15 of the Solids Settlement Agreement presents the tasks required for completion of the Solids RA as five general areas. Those paraphrased tasks are presented below:

- Develop and implement a Site Health and Safety Plan (HASP);
- Develop and implement a Site Security Plan;
- Characterize, remove, and properly dispose of hazardous substances and wastes (solids and contaminated soils) located at the Site;
- Complete the project per Work Plan and with input from U.S. EPA;
- Develop a Quality Assurance Project Plan (QAPP) and assist U.S. EPA with sampling as required/requested;
- Prepare and submit periodic progress reports to U.S. EPA and notify any successive property owner(s) of Site Conditions and ongoing Solids RA activities;
- Prepare a Final Report documenting the RA activities and Site conditions. This report was created to comply with those requirements.
- Ship Site wastes in accordance with requirements; including Agency notifications; and
- In addition to specific Solids Settlement Agreement tasks, perform activities necessary and incidental to the RAWP per the OSC directions.

Specific details on how these tasks and conditions were complied with are presented in this report. The compliance actions are also reported in the monthly Status Reports that were generated for the project, copies of which are provided as Appendix A of this report.

The Solids Settlement Agreement referenced the RAWP as the source of information regarding the approved Scope of Work for the Removal Action (RA Scope). Activities related to the project were classified in the RAWP into six general categories with several additional subcategories being presented. The six categories for the tasks to be completed were:

i) Complete pre-mobilization activities;

ii) Site mobilization/Site preparation;

iii) Complete surface waste removal activities;

iv) Complete subsurface waste removal activities;

v) Demobilize from the Site; and

vi) Develop Removal Action Completion Report and Site Closure documentation.

A brief description of how individual activities were performed and completed in each of these general categories appears below. Additional details are also provided in Appendix A, which contains copies of the monthly Status Reports and Weekly Summaries prepared to document project activities since the November 1, 2005 Effective Date.

2.1.1 PRE-MOBILIZATION ACTIVITIES

Several activities were completed by The Respondents and CRA prior to mobilization to the RRG/Clayton Site to complete the Solids RA activities. Among those completed activities were the following:

- A HASP was developed for the project by CRA. This HASP was submitted to U.S. EPA on November 15, 2006;
- A Site Security Plan (SSP) was developed as part of the HASP. Key points of that SSP were the presence of a perimeter fence at the Site and the use of a Security subcontractor to monitor Site activities during non-operational hours/periods;
- The Respondents selected Brandenburg as the designated Removal Contractor for the project. The U.S. EPA was informed of the selection on November 16, 2005;
- The Respondents selected an Illinois-licensed Asbestos Contractor and completed an Asbestos Site Survey at the Site. The survey, including sample collection, was completed on November 4, 2005;

- CRA, Brandenburg, and The Respondents researched Applicable or Relevant and Appropriate Requirements (ARARs) in local and State regulations that applied to the planned activities;
- The Respondents made U.S. EPA/OSC Turner aware of the proposed project mobilization schedule. Discussions among the parties led to December 5, 2005 being selected as a mutually acceptable mobilization date; and
- A pre-mobilization conference was held between CRA and Brandenburg to discuss the various activities, documents, and procedures that would need to be provided and/or complied with during the Site mobilization activities. During this meeting, the attendees discussed the project mobilization date, the project organization and reporting structure between the involved parties, and the expectations for on-Site crew members, among other topics.

Additional details on these and other pre-mobilization activities appear in Section 6 of this report.

2.1.2 SITE MOBILIZATION/SITE PREPARATION

As stated previously, CRA and Brandenburg personnel mobilized to the RRG/Clayton Site in Sauget, Illinois on December 5, 2005.

Among the first activities to be completed was the hosting of the initial project Health and Safety (H&S) meeting, which included having all attending persons sign the Brandenburg HASP and a discussion of the Hospital Route Map and Emergency Contact telephone numbers for the Site. Typical Site preparation activities such as outlining/establishing the applicable Site Work Zones, performing vegetation removal activities, and establishing equipment/supply staging areas were completed during the initial stages of Site mobilization.

A copy of the initial Site Work Zone Map, which was developed by Brandenburg following the December 1, 2005 pre-mobilization meeting, is included as Figure 2.1. However, upon arrival at the Site and completion of a Site reconnaissance, it was decided to modify the Work Zone layout slightly to afford better Site access for vehicles. The revised Work Zone Layout Map is included as Figure 2.2. Brandenburg also submitted various Site Activity Plans to CRA for review.

Additional details on activities completed as part of project mobilization are presented in Section 6 of this report.

2.1.3 SURFACE WASTE REMOVAL ACTIVITIES

Several activities were included under this topic. Among them were:

- Completing a chemical sweep/inventory of the Site;
- Inventorying, decommissioning, and demolition of ASTs;
- Inventorying, consolidating, and staging of waste containing drums;
- Inventorying, consolidating, and staging of empty drums;
- Decommissioning and demolition of process equipment;
- Draining, decommissioning, and demolition of aboveground process piping;
- Demolition of select Site buildings and structures/features;
- Collection of waste characterization samples from waste streams for off-Site disposal; and
- Loading, off-Site transportation, and disposal of all staged waste materials upon completion of all waste characterization/consolidation activities.

Additional details for each of these activities are provided in Section 6 of this report.

2.1.4 SUBSURFACE WASTE REMOVAL ACTIVITIES

As with the previous section, several activities were included under this topic. Among them were:

- Draining, inspecting, and/or demolition/abandonment of below ground process piping;
- Performing a paint waste confirmation program as defined in the RAWP;
- Excavation and stockpiling of chemically-impacted soils;
- Collection and analysis of waste delineation samples from the excavations;
- Collection of waste characterization samples from stockpiled soils;
- Loading, off-Site transportation, and disposal of all staged waste materials upon completion of all waste characterization/consolidation activities; and

- Completing Site restoration activities, as needed, in the excavation areas.

Additional details for each of these activities are provided in Section 6 of this report.

2.1.5 SITE DEMOBILIZATION

Having completed the tasks mandated by the Solids Settlement Agreement and due to the uncertainty involved with the resolution of the additional activities at the RRG/Clayton Site, Brandenburg and CRA completed a second temporary demobilization on February 7, 2007. Brandenburg arranged to have all heavy equipment and the majority of field supplies removed from the Site with the understanding that equipment will be rented locally to perform any future activities at the Site. Site security services were continued due to the presence of the EZ 4 Loading Dock materials at the Site, as well as because of the office equipment, supplies, and project information/documents that remained at the Site. Hamilton Security and Investigation of O'Fallon, Illinois (Hamilton) continues to provide a continual on-Site presence.

2.1.6 DEVELOP REMOVAL ACTION REPORT AND SITE CLOSURE DOCUMENTATION

Section VIII, Condition 20 of the Solids Settlement Agreement requires that a written report be prepared within 60 calendar days of the end of Solids RA related activities/the demobilization date at the Site. Among the topics to be discussed in this report are:

- A "good faith" cost estimate;
- A list of all wastes managed during the project;
- Disposal options considered for waste management;
- The disposal facilities used for waste management purposes during the Solids RA; and
- The analytical data assembled during the completion of the Solids RA.

These topics are addressed in this report.

3.0 PERFORMANCE STANDARDS AND CONSTRUCTION QUALITY CONTROL

This section identifies various Quality Control and Site Activity Plans developed to facilitate the completion of Solids RA activities in a manner compatible with the requirements of the RAWP and the Solids Settlement Agreement. Among the Plans developed for the project were a Drum Handling Plan, a Field Sampling Procedure Plan (Sampling Plan), a QAPP, an Asbestos Abatement Plan, a Process Pipe Removal Plan, and an Excavation Plan. For the sake of brevity, only the Excavation Plan and the QAPP, which incorporates the Sampling Plan, will be discussed in detail. This section also discusses the steps taken to ensure compliance with the conditions of the various plans during the performance of the Solids RA activities.

3.1 GENERAL

Prior to initiating any new field activities, Brandenburg was required to prepare an activity plan discussing the method by which the specific task/activity would be completed. The activity plans were developed to be as concise as possible to afford ease of use during execution of the activity/task. Draft versions of each plan were submitted to the CRA Field Engineer for review prior to the planned start date of the activity/task. After each activity plan was finalized, a "pre-activity" meeting was held to discuss the specific activities and goals with field personnel.

3.2 EXCAVATION PLAN

The Excavation Plan was prepared by Brandenburg in January 2006. The plan presented specific methodology to be used for each type of excavation activity (paint waste confirmation, soil removal, and soil sampling). Additionally, the plan describes the air monitoring and decontamination procedures that would be involved with the execution of the activity. The plan was finalized on January 17, 2006, ahead of the proposed soil excavation activity start date of January 18, 2006. Initially, all soil excavation tasks were to be completed consecutively. However, the original execution sequence was changed, and the paint waste confirmation portion of the planned soil excavation phase was completed first.

The specific performance standards that were to be met by the soil excavation activities were:

1) The presence of paint waste would be confirmed at the identified locations and removed when encountered;
2) Soil samples would be collected at specified locations to determine the presence of near surface chemical impact; and
3) Chemically-impacted soils were excavated at known locations to the extent practical based on confirmatory sample results.

The paint waste determination was done visually while the evaluation of the near surface (overburden) soil and confirmatory sidewall soil samples were evaluated based on chemical analytical results. Based on the identified contaminants of concern (COCs) from the U.S. EPA RSE, confirmation samples at each location were analyzed for a combination of total metals, total and toxicity characteristic leachate procedure (TCLP) volatile organic compounds (VOCs), PCBs, and total and TCLP semivolatile organic compounds (SVOCs).

The confirmation sample data were evaluated against TACO or Resource Conservation and Recovery Act (RCRA) hazardous waste standards. If a sidewall or overburden sample result indicated that a sample did not meet these performance standards, then additional excavation of that sidewall was done to expand the excavation laterally from the failed sample location. Additional sidewall samples were then collected from the perimeter of the additional excavation area. Using these procedures, excavations were completed to meet the performance standards.

3.3 QUALITY ASSURANCE PROJECT PLAN

Section VIII, Condition 18 of the Solids Settlement Agreement required that a QAPP be prepared to address the proper collection and analysis of samples during the completion of the Solids RA activities. Subsequently, CRA developed a QAPP in accordance with the guidelines presented in "Quality Assurance/Quality Control Guidance for Removal Activities: Sampling QA/QC Plan and Data Validation Procedures (OSWER Directive No. 9360.4-01, April 1, 1990)". Among the components of the QAPP were an Environmental Quality Company (EQ) Sampling Procedures Plan and a Laboratory Quality Assurance Plan from RTI Laboratory, Inc., the laboratory of record at the time of the QAPP's submission. The completed QAPP was submitted to U.S. EPA on March 15, 2006.

The intent of the QAPP is to provide a 'blueprint' for obtaining the type and quantity of data needed to support environmental decision making. Soil sampling activities were performed in accordance with the Site-specific QAPP. Waste characterization/screening samples were collected from tanks and drums at the Site prior to submission of the QAPP. These samples were collected by EQ personnel in accordance with typical industry practices and the EQ Sampling Procedures guidelines. A detailed version of this guideline document was included in the QAPP.

Specific performance standards related to the QAPP included the usage of only National Environmental Laboratory Accreditation Program (NELAP) accredited laboratories for Solids RA activities. Conformance with this standard was achieved by verifying the accreditation status of the laboratories used throughout the project for critical data analysis. Another performance standard of the QAPP was for sample collection activities to be performed in a consistent, industry accepted manner. This standard was originally met by subcontracting sample collection services to EQ, which supplied experienced field personnel for the completion of the activity. When experienced field personnel were not available from EQ, sample collection duties were restricted to persons with prior sample collection experience.

Condition 18 also required that U.S. EPA personnel, or their designees, be allowed to collect split samples during any sample collection event and be allowed to submit independently collected Site samples to CRA/Brandenburg for analysis. As required by Section 18.c, U.S. EPA and its designees were provided with advanced notice before soil sample collection activities were initiated at the RRG/Clayton Site. No samples were collected by U.S. EPA or its designees during the completion of the Solids RA activities.

4.0 PROJECT ORGANIZATION

This section presents key personnel and organizations involved in the completion of the Solids RA activities at the RRG/Clayton Chemical Site.

4.1 U.S. EPA/IEPA

The U.S. EPA monitored progress of the Solids RA to ensure that the work was performed in accordance with the Consent Decree and the Solids Settlement Agreement. Kevin Turner was the designated OSC. During Site visits, OSC Turner performed activity oversight functions as needed.

However, oversight functions were typically provided by the designated START member assigned to the Site by OSC Turner. During the completion of the Solids RA, the START personnel have been Thomas Binz (November 2005 – March 2006, June - October 2006), Doug Ball (March 2006 – June 2006), Keith Hughes (June 2006), and Robert Hill (October 2006 – June 2007).

Michael Grant of the IEPA Collinsville office was the primary IEPA representative for the Site, making periodic visits to observe Site activities and/or to meet OSC Turner. IEPA Grant served as the Site's RCRA inspector while RRG was engaged in active Site operations. Typically, IEPA Grant was provided with copies of work plans, status reports, and other key project-related documents that were submitted to OSC Turner.

4.2 RRG/CLAYTON CHEMICAL TECHNICAL AND STEERING COMMITTEES

The RRG/Clayton Chemical Solids Group created the RRG/Clayton Chemical Technical and Steering Committees to implement the terms of the Consent Decree and the Solids Settlement Agreement. The Technical Committee, which primarily consists of technical representatives from the Respondent companies, was responsible for the technical execution of the RAWP and Solids Settlement Agreement conditions/tasks. The Steering Committee is mostly comprised of legal representatives of The Respondent companies and was responsible for making the day to day decision making for the Solids RA. Members from both Committees conducted occasional Site visits during the performance of the work.

4.3 REMOVAL OVERSIGHT /CONSTRUCTION MANAGEMENT ENGINEER

CRA was retained by the Steering Committee to perform oversight activities during the execution of the Solids RA activities defined in the October 2005 RAWP for the RRG/Clayton Site. Responsibilities included the preparation of Contract Documents, solicitation of bids for the Removal Contractor to execute the project, evaluating the returned bids and recommending a viable candidate to the Technical Committee, serving as a liaison between U.S. EPA and The Respondents during the performance of the RA Activities, providing Construction Oversight for the RA activities, and preparing routine progress reports, as well as various Work Plans, for unanticipated activities. As stated previously, The Respondents provided U.S. EPA with the required information for the assigned Project Coordinator on November 8, 2005 in compliance with the requirements of Section VIII, Condition 12 of the Solids Settlement Agreement.

CRA representatives were present at the Site during all phases of the Solids RA from December 5, 2005 to June 29, 2007.

4.4 REMOVAL CONTRACTOR

On November 16, 2005, U.S. EPA was informed that Brandenburg was awarded the contract to serve as the primary Removal Contractor for the Solids RA by the RRG/Clayton Solids Group Steering Committee.

Brandenburg was responsible for implementation of the Solids RA Scope in accordance with the RAWP, project specifications, and drawings. For the duration of the project, Brandenburg assigned two project field superintendents to supervise all contractor and subcontractor activities. Brandenburg was responsible for all facets of this project including project timing, management and disposal of waste streams, building demolition, and soil excavation. Brandenburg retained several subcontractors and vendors to perform specific work tasks during the Solids RA. A summary of subcontractors used by Brandenburg is presented in Table 4.1.

4.4.1 SAMPLING AND DISPOSAL SUBCONTRACTORS

Environmental Quality Company of Ypsilanti, Michigan (EQ) was retained by Brandenburg to provide material sampling and hazardous waste disposal services for the project. EQ Industrial Service Group (EQIS) and EQ Project Management Group

(EQPMG), subsidiaries of EQ, were assigned to perform the sampling of waste materials and the management of hazardous waste disposal activities at the RRG/Clayton Chemical Facility, respectively. As part of this charge, EQPMG retained and coordinated the transport and disposal of a variety of waste streams, including the excavated PCB-impacted soils, drums of hazardous wastes, and various drummed contents determined to have hazardous constituents through the waste characterization/screening process. Based on the evaluation of analytical results from characterization samples obtained from drums and tanks at the RRG/Clayton Site, EQPMG determined which Treatment, Storage and Disposal facility (TSDF) within the EQ network was most capable of handling specific waste streams, coordinated the waste acceptance/approval process at the target TSDF, and made arrangements with contracted hazardous waste transporters to deliver the material from the Site to the TSDF. In accordance with Section VIII, Condition 21 of the Solids Settlement Agreement, information was provided to U.S. EPA for the four suggested EQ facilities that were identified for receiving waste from the RRG/Clayton Site on February 7, 2006. Three of the four facilities were approved for use by OSC Turner on February 13, 2006. Additionally, EQ subcontracted ReSolution Partners, LLC of Madison, Wisconsin (ReSolution) to provide technical oversight and sample collection support for the chemical oxidation and stabilization activities to address the RCRA/TSCA soils excavated at the Site.

Veolia Environmental Services, Inc. (Veolia) was also contracted to provide waste disposal services for select hazardous waste streams that could not be feasibly disposed of by EQ, including recovered mercury-containing wastes. Brandenburg contacted Veolia to determine if they could provide more appropriate waste management services for select wastes. Subsequently, The Respondents provided OSC Turner with facility information for Veolia facilities in Sauget, Illinois; Port Washington, Wisconsin; and Port Arthur, Texas. Certifications for facility use from U.S. EPA were received on May 4, 2006, July 13, 2006 and July 25, 2006, respectively, for each facility.

Waste Management, Inc. (WM), through the Milam Recycling and Disposal Facility (Milam) and WM of St. Louis, Inc. subsidiaries, was contracted by Brandenburg to provide transportation and disposal services for non-hazardous waste and ACM generated during the completion of the Solids RA activities. Approval for usage of this facility was initially provided verbally on February 10, 2007 by START Tom Binz on behalf of OSC Turner. Subsequently, OSC Turner gave verbal approval to use the facility on February 15, 2006, then provided written approval on February 21, 2006.

Clean Harbors Environmental Services, Inc. of Norwell, Massachusetts (CH) was also used as a disposal facility, specifically for the management of the recovered liquids from the northeast portion of the Site. The roughly 1,500 gallons of material removed from the trench structure and shipped off Site on June 5, 2007 was delivered to the CH Deer Park facility in LaPorte, Texas. U.S. EPA approved this facility for use on June 11, 2007.

Grossman Iron and Steel Company (Grossman) of St. Louis, Missouri, was contracted to haul and recycle scrap metal and steel from the Site.

A summary table listing the waste disposal facilities used for the management of Site waste is included as Table 4.2 of this report.

4.4.2 DISPOSAL TRANSPORTATION SUBCONTRACTORS

EQPMG contracted a total of three hazardous waste hauling companies to provide transportation service at the RRG/Clayton Site. They are presented in Table 4.1.

Similarly, Veolia contracted licensed hazardous waste haulers to transport materials from the Site to various Veolia TSDFs for those Site waste streams that they were charged with managing. The haulers used by Veolia are also listed in Table 4.1.

Brandenburg contracted with Waste Management of St. Louis (ACM, solidified tank sludge, consolidated granular carbon, and debris) and Beelman (stockpile #1 soils) to provide hauling services for non-hazardous waste streams generated at the RRG/Clayton Site. Brandenburg also contracted with J.C. Hauling of Millstadt, Illinois to transport concrete debris from the Site for off-Site processing.

A table listing the various waste hauling companies used to transport Solids RA generated Site waste is included as Table 4.1 of this report. This table presents details of the firms used and the material hauled.

4.5 PROJECT LABORATORIES

RTI Laboratories, Inc. of Livonia, Michigan (RTI) was retained by EQPMG to serve as the project laboratory for the Solids RA. RTI provided analytical testing services and provided analytical data results in accordance with the U.S. EPA-required QAPP.

Quality Assurance documentation was provided to U.S. EPA for RTI in the March 2006 QAPP. The NELAC certification number for RTI is NELAP #100315.

Severn Trent Laboratories of St. Louis, Missouri (STL – St. Louis) was presented to U.S. EPA by The Respondents as an alternate laboratory to be used for project analyses. Quality Assurance documentation was provided to U.S. EPA by The Respondents on April 7 and 13, 2006. STL – St. Louis was approved by OSC Turner on April 20, 2006. The NELAC certification number for STL – St. Louis is Florida NELAP #E87689.

Additionally, Brandenburg contracted TEK-Lab, Inc. of Collinsville, Illinois (TEK-Lab) to analyze waste characterization samples from the Site. Since these samples were for waste acceptance/characterization purposes, facility data was not presented to U.S. EPA for contractor approval[1]. Additional waste characterization analysis services were also provided by EQ and Veolia.

4.6 SURVEYOR

Juneau Surveyors and Engineers, Inc. (JSE) of St. Louis, Missouri was retained by Brandenburg to provide surveying services at the RRG/Clayton Site. JSE personnel visited the Site on November 2, 2006 to document the location of Site features (excavation areas) created by the performance of the Solids RA. On March 6, 2007, JSE returned to the Site to collect additional survey data, including information needed to convert the November 2, 2006 data to the Illinois State Plane Coordinate System. JSE received its work directives from Brandenburg and the CRA on-Site representatives.

[1] U.S. EPA was not provided with Quality Assurance documentation for TEK-Lab. However, the laboratory is a NELAP-certified facility (NELAP #100226).

5.0 HEALTH AND SAFETY

This section briefly discusses the Health and Safety (H&S) procedures and protocols that were put in place at the RRG/Clayton Site following CRA and Brandenburg mobilizing to the RRG/Clayton Site on December 5, 2005.

5.1 GENERAL

Prior to commencement of any activities related to contact or potential contact with contaminated media, Brandenburg developed and implemented a Site-specific HASP in accordance with the U.S. EPA-approved RAWP. Tom Delaney was the Brandenburg designated H&S Officer (HSO) for the RRG/Clayton Site, while Phil Cook was the designated Site Safety Officer (SSO). No HASP violations were noted during the completion of the Solids RA activities.

5.2 HEALTH AND SAFETY PRE-CONSTRUCTION MEETING

On December 5, 2005, on-Site representatives from CRA and Brandenburg attended a Pre-Construction H&S meeting conducted by Brandenburg's HSO and SSO. Additional HASP briefings were conducted with new personnel starting work on Site after the initial meeting on December 5, 2005. New personnel were also required to sign the HASP acknowledgement sheet. All visitors to the Site that would enter into active Site Work Zones were also required to attend a HASP briefing and sign the HASP acknowledgement sheet.

Daily H&S briefings were included in the Daily Activity Meeting held by Brandenburg ahead of starting each day's activities.

5.3 ON-SITE CONTINGENCY PLAN

In the event that a release of a hazardous waste occurred on Site beyond the limit of working areas, the contingency protocols presented in the Site HASP were to be implemented. No releases or spill events occurred during the completion of Solids RA activities at the Site. Subsequently, the Site Contingency Plan was not invoked.

5.4 AIR MONITORING

Throughout the period of on-Site removal work where intrusive work was undertaken, Brandenburg's SSO monitored air quality along the perimeter of and within active work areas. Air quality was primarily monitored for VOCs with a photo-ionization detector (PID). Based on instrumentation readings, supplemental air monitoring was performed for VOCs using Draeger tubes. Air monitoring for fugitive dust was also performed dependent on Site conditions and the specific activity being performed. Air monitoring equipment was calibrated on a daily basis in accordance with manufacturers' instructions. All measurements made as a result of the air monitoring were recorded. Whenever air monitoring readings exceeded permissible levels, work activities were temporarily halted until either the responsible condition was mitigated or an upgrade in personal protective equipment (PPE) was performed by Site personnel involved with the active operation.

5.5 DECONTAMINATION FACILITIES

The establishment of personnel and equipment decontamination facilities was also among the first completed tasks completed on December 5, 2005. Among the first deliveries to the Site was a decontamination trailer for personnel and a mobile decontamination skid for equipment. Brandenburg also received supplies of PPE, rolls of Caution and Warning tape for the delineation of the Work Zones, and portable sanitary facilities.

All personnel working on Site were typically required to don modified Level D PPE or Level C PPE, as described in the HASP and the RAWP. Personnel were also required to follow specific decontamination procedures prior to egress from the exclusion zone (EZ) or work areas. The decontamination procedures included the systematic removal and disposal of outer protective clothing and the practice of good personal hygiene. A mobile decontamination trailer was provided by Brandenburg for Site personnel. This trailer was relocated, as needed, to facilitate Site operations and employee convenience.

Initially, Brandenburg addressed the migration of potentially contaminated materials from the Site on heavy equipment and/or trucks through the mobilization of a mobile decontamination station. The metal device allowed relocation to different portions of the Site for ease of staging purposes. However, as tank demolition activities progressed, Brandenburg established a fixed heavy equipment decontamination area at the former tank farm area located at the southwest portion of the EZ 4 Work Zone. Heavy

equipment which may have been in contact with potentially contaminated soils, structures, drums, etc., was visually inspected by Site personnel prior to leaving the work area. Based on this inspection, either dry or wet decontamination procedures were invoked. For dry decontamination, materials were brushed, scraped, or otherwise physically removed from the affected portions of the vehicle. If it were determined that wet decontamination procedures were warranted, the affected vehicle was directed to the equipment decontamination area. At this location, the affected portion(s) of the vehicle was thoroughly cleaned using a high pressure hot water spray unit to remove all visible and loose soil and debris particles. Following decontamination, CRA's on-Site representative visually inspected each piece of equipment to ensure that the cleaning was complete. Any deficiencies in cleaning were brought to Brandenburg's attention, and the affected piece of equipment underwent additional cleaning. The equipment was re-inspected by CRA's on-Site representative. Equipment decontamination continued until approval was granted by CRA that the cleaning process was complete.

Decontamination wastes were managed differently based on the generation process. PPE was gathered, bagged, and included with the material that was being handled at the time of contamination. These materials were subsequently profiled for disposal along with the greater waste stream. Material removed from trucks and other heavy equipment using manual (non-washing) methods were collected and placed on the most similar stockpile of Site soils for future disposal. Liquid wastes generated during decontamination activities were allowed to pond at the sump of the equipment decontamination area and undergo evaporation, with any residual solids being removed and placed on an appropriate soil stockpile.

5.6 SITE SECURITY

Brandenburg contracted Hamilton to be the security contractor used at the Site to monitor the Site during the hours Brandenburg personnel were not present. Hamilton maintained a Site Visitors Log, and all personnel entering and exiting the Site were required to sign in and out. A log of any security incidents was required to be maintained by the security service. No breaches of Site security or other notable security situations occurred during the completion of the RA activities.

When active Site activities were not in progress, the gates were kept closed and chained to prevent uncontrolled and/or unauthorized access to the Site. In the case of a security breach, Hamilton was instructed to contact the appropriate local authority so the necessary response action could take place. Hamilton was also instructed to contact the

Brandenburg SSO and the lead CRA consultant. As stated previously, Hamilton continues to maintain a presence at the RRG/Clayton Site.

6.0 REMOVAL ACTIVITIES COMPLETED AT THE SITE

This section contains descriptions of the various activities, tasks, and subtasks completed by Brandenburg personnel and subcontractors at the RRG/Clayton Site during the execution of the required Solids RA activities. To parallel the task list from the RAWP, a section on pre-mobilization activities is also included.

6.1 GENERAL

Removal activities were performed at the Site in accordance with the Solids Settlement Agreement and U.S. EPA-approved RAWP from December 2005 to June 2007. The general sequencing of activities proceeded as follows:

- Pre-mobilization;
- Mobilization;
- Clearing and grubbing;
- Chemical Site sweep;
- Asbestos removal;
- Atmospheric screening of empty tanks followed by removal/recovery as scrap steel;
- Inventory, sampling, and consolidation of aboveground storage tank contents;
- Decontamination, demolition, and salvaging of ASTs, on-Site structures, and process equipment;
- Identification, sampling, and consolidation of drummed wastes;
- Removal of aboveground and below ground process piping;
- Excavation of impacted soils;
- Confirmatory soil sample collection and analysis;
- Backfill and restoration of excavated areas; and
- Transport and disposal of excavated and consolidated waste materials.

6.2 SITE ACCESS AND PRE-MOBILIZATION ACTIVITIES

Access to the Site was granted by Mr. Dennis Ballinger, the manager of Magna Tax Services (the property owner), on November 15, 2005 for the purpose of completing the Solids RA mandated by the Solids Settlement Agreement.

Project related pre-mobilization tasks that were completed before establishing an on-Site presence for the Solids RA included:

- Development of a HASP for the project – CRA submitted a Site-specific HASP on behalf of The Respondents in accordance with guidelines/requirements presented in the Solids Settlement Agreement. This HASP was submitted on November 15, 2005 to meet the compliance deadline presented in the Solids Settlement Agreement. No subsequent comments were received from U.S. EPA for incorporation into the HASP. Additionally, Brandenburg developed a separate HASP based on the CRA document to govern the execution of field activities;
- Development of a SSP – a basic SSP was developed and included in the HASP prepared for the RRG/Clayton Site and submitted to U.S. EPA. Key points of that SSP were the existing perimeter fence at the Site, the intended use of a security subcontractor to monitor Site activities during non-operational hours/periods, and the maintenance of a Site Visitors Log to track and monitor the presence of personnel in the restricted portions of the Site. Hamilton was the selected security contractor used at the Site;
- Selection of a Removal Contractor – CRA developed a Request for Proposal (RFP) as the first step towards securing a suitably qualified Removal Contractor on behalf of The Respondents. U.S. EPA was made aware of the scheduled contractor Site walk on November 4, 2005, and START Tom Binz was present for the first of the two contractor walks. An RFP response deadline was set for November 10, 2006, and following the evaluation of a number of bids, Brandenburg was selected as the successful Removal Contractor on November 16, 2006. U.S. EPA was informed of the selection on that date;
- Selection of an Asbestos Contractor and Completion of an Asbestos Site Survey – although not mentioned in the September 6, 2001 Removal Assessment Report, The Respondents had an asbestos survey completed at the Site to facilitate the safe completion of the Solids RA activities. The survey, including sample collection, was completed on November 4, 2005. A report was subsequently generated and used as the basis for completing an asbestos removal/abatement action by Brandenburg following mobilization to the Site in December of 2005;

- Research ARARs in local and State regulations that apply to the planned activities - among the ARARs that were noted and complied with during the execution of this project were the National Emissions Standards for Hazardous Air Pollutants (NESHAPs) notification requirement prior to beginning asbestos abatement/removal activities, development of a Spill Prevention Control and Countermeasures (SPCC) Plan to address the prevention of or response to spill or release events, and the implementation of Stormwater Pollution Prevention Plan (SWPPP) Best Management Practices (BMPs) consistent with the requirement for a National Pollution Discharge Elimination System (NPDES) permit;
- Selection of a mobilization date - U.S. EPA/OSC Turner and START Tom Binz were made aware of the intended mobilization schedule. During the conversations between CRA and OSC Turner, a mutually acceptable mobilization date of December 5, 2005 was selected. Arrangements were also made for a project initiation meeting to be held on Site among the involved/affected field personnel; and
- Pre-mobilization conference - a pre-mobilization conference was held between CRA and Brandenburg to discuss the various activities, documents, and procedures that would need to be provided and/or complied with during the Site mobilization activities. Topics discussed included the project mobilization date, the project organization and reporting structure between the involved parties, and the expectations for project personnel.

6.3 SITE MOBILIZATION AND SITE PREPARATION ACTIVITIES

Brandenburg and CRA mobilized to the Site on December 5, 2005. OSC Turner, START Tom Binz, and IEPA Mike Grant were also on Site the day of mobilization. Heavy construction equipment, personnel, support facilities, and other items necessary to conduct the removal work were mobilized to the Site on December 5 and 6, 2005. However, additional equipment, personnel, and supplies were mobilized throughout the project on an as-needed basis.

6.3.1 HEALTH AND SAFETY PLAN IMPLEMENTATION

Among the first activities completed by Brandenburg during Site mobilization was the implementation of the Site's HASP. Following the December 1, 2005 pre-mobilization meeting, Brandenburg prepared a Site-specific HASP for the execution of the Solids RA

activities. An initial H&S meeting was held once all Brandenburg and CRA personnel were present at the Site on December 5, 2005. The purposes of the H&S meeting included making all parties aware of project expectations from a safety perspective, to establishing the lines of communication for H&S related matters, making Site personnel aware of the location of the Hospital Route Map and Emergency Contact Telephone Numbers for the Site, and introducing key project personnel. During the briefing, Brandenburg introduced the proposed Site Work Zones for the completion of Solids RA activities, which were subsequently revised to afford improved vehicle access to all parts of the Site. Following the initial H&S briefing, Brandenburg submitted the required medical records and Hazardous Waste Operations (HAZWOPER) training documentation for project personnel to CRA.

Implementation of the HASP included the hosting of daily H&S meetings during the completion of Solids RA activities, the performance of air monitoring activities while completing applicable Solids RA activities, the maintenance of adequate supplies of applicable/appropriate PPE, and the usage of PPE by Site personnel during the performance of RA activities. The provision of personnel H&S training and medical fitness records was also a component of the HASP that was completed during mobilization.

HASP implementation was previously discussed in Section 5.0.

6.3.2 CLEARING AND GRUBBING

The RAWP identified several locations at the RRG/Clayton Site that required soil-related activities to be completed. Additionally, there were several empty tank carcasses located at the south end of the Site (the EZ 1 Work Zone) that needed to be disposed. Due to the overgrown conditions at the Site, Brandenburg was required to perform selective Site clearing and grubbing to afford access to these areas/features. The vegetation removal activities were completed by Brandenburg personnel during the first week of Solids RA activities. Additional smaller clearing efforts took place throughout the duration of the Solids RA activities on an as-needed basis.

6.3.3 CHEMICAL SITE SWEEP

As a result of the overgrown nature of the Site at the time of mobilization, in conjunction with the level of uncertainty from the available Site information, one of the initial tasks

required of Brandenburg after mobilization was to complete a chemical "sweep" of the Site. The goal of this task was to identify any chemical or waste storage containers that had not been previously documented to allow for the proper management of those materials.

Brandenburg completed this task simultaneously with the delineation of the Work Zones for the project. The chemical sweep was performed on December 5 and 6, 2005.

6.3.4 ASBESTOS REMOVAL

An asbestos survey was completed on November 4, 2005, by Philips Service Corporation (PSC) of Columbia, Illinois, to determine the quantities and locations of ACM at the Site. A copy of the PSC survey report was provided to Brandenburg, which led to the development of an asbestos removal plan. Asbestos removal activities on friable and non-friable ACM were completed in the Office/Laboratory Building (December 7 and 8, 2005), the distillation tower (December 12, 2005), and the roof of the former break trailer (December 13, 2005) by Brandenburg personnel. One roll off box containing roughly 15 yd^3 of ACM was sent to Milam Landfill (Milam) in East St. Louis, on February 8, 2005.

The on-Site activities completed by Brandenburg are presented in Appendix A of this report. Also, a copy of the Bill of Lading for disposal of the recovered material is included in Appendix B of this report.

6.3.5 ATMOSPHERIC SCREENING AND DEMOLITION OF EMPTY ASTS

In the LRR, O&G stated that an estimated 40,500 gallons of solids and sludges remained inside ASTs at the RRG/Clayton Site following the completion of the LRA. Per the RAWP, the remaining ASTs at the Site would be inventoried, inspected, sampled, cleaned, demolished, and prepared for off-Site disposal/recycling. The locations of the tanks and storage vessels identified during the LRA are presented as Figure 6.1. Table 6.1 presents those tanks identified by Brandenburg as being empty at the time of mobilization to the Site.

Brandenburg began the tank demolition activities on December 6, 2006 with the empty ASTs located in the EZ 1 Work Zone at the south end of the Site. A PID was used to screen the atmosphere inside those tanks located in the EZ 1 Work Zone before the tank was accessed using an excavator with a shear attachment. Once an opening was created

to afford access, the tank was entered, inspected, cleaned as necessary, and then cut apart and staged for off-Site transport. After tank demolition activities were completed in EZ 1, Brandenburg proceeding to inventory and inspect the ASTs in the other Work Zones, beginning with the EZ 4 Work Zone.

6.4 SURFACE WASTE REMOVAL ACTIVITIES

This section contains discussions of the methods involved with the removal and disposal of designated aboveground features at the RRG/Clayton Chemical Site as part of the required Solids RA activities.

6.4.1 CONTAMINATED LIQUIDS

Previous Site operations included recovering spent solvents through a distillation process, and combining tank bottoms from the solvent recovery process with chemicals to produce a by-product sold for use in the pavement industry. Typical process equipment, in the form of distillation towers/stills and batch mixers, was present at the Site and was subsequently abandoned when the facility ceased operations.

The U.S. EPA required that process equipment at the Site be drained of any liquids during the LRA. In 2002, The Liquids Steering Committee contracted O&G to manage the Liquid Removal Activities. O&G subcontracted Clean Harbors of Chicago, Illinois to perform the actual liquids removal activities. Approximately 810,009 gallons of liquids were removed from ASTs, piping, drums, and other vessels located on Site. These materials were transferred to either the Holcim/Energis Site in Clarksville, Missouri or the Clean Harbors facility in Chicago, Illinois for disposal. Among the post-removal conditions mentioned by O&G in the LRR was that select ASTs at the Site had "weeped" additional liquids after being cleaned by Clean Harbors. The specific ASTs that displayed this phenomenon are visually presented on Figure 6.1.

The LRR stated that in most cases the weeping phenomenon was noted in tanks that had solids/sludges in them. It was assumed, though not presented in the RAWP, that any weeped liquids would be mixed with the tank solids to create a single, sludge-like material for waste handling/management purposes. Alternately, if the anticipated "blending" protocol was not sufficient, then a solidifying agent such as lime kiln dust, fly ash, bottom ash, or corn cobs could be added to the tank and the blending/mixing action repeated.

During the management of tank contents, fly ash and later bottom ash were added to material inside partially demolished tank carcasses in order to have the material pass the paint filter test and be disposed of as a solid waste. Materials from tanks G2, G5, G6, G7, G9, G11, B1, and B4 were among those where solidification procedures were used. Additional details on the solidification efforts are provided in the monthly Status Reports presented as Appendix A.

6.4.2 TANK CONTENTS

On December 7, 2005, Brandenburg began demolition of the ASTs on Site. A total of 65 ASTs and five stainless steel vat pots were noted. The five vat pots and 40 (three fiberglass and 37 steel) of the ASTs did not contain any waste material. The empty steel ASTs and stainless steel vat pots were demolished and sent to Grossman as scrap metal during the first month (December 2005) of on-Site activities. The fiberglass ASTs were hauled to Milam Landfill for disposal. Table 6.1 presents a summary of the empty tanks found on Site.

The remaining 25 steel ASTs contained waste material classified primarily as black, brown, or gray oily sludge. Samples from these tanks were collected from December 12 through 15, 2005, and sent to RTI where they were analyzed for PCBs and for screening and disposal characterization parameters. Table 6.2 presents a summary of the tanks with contents that were sampled and analyzed for disposal characterization. Samples of materials from two process areas within the EZ 4 Work Zone were collected and submitted. These samples and the generated analytical results are also listed in Table 6.2, which also presents the suggested means of managing the individual tank contents from EQPMG. A summary of disposal information for each waste stream from the identified tank contents is presented as Table 6.3.

Additional details on the management of the tank contents are provided in Appendix A of this report. Also, copies of various disposal-related documentation generated during the waste management process are included as Appendix B of this report.

6.4.3 DRUMMED WASTES

Drum sampling activities were initiated by Brandenburg on January 3, 2006, with the inventorying of drums at the Site followed by the assembly of 273 empty drums, the

crushing of those drums, and the segregation of the crushed drums by material type (131 plastic, 142 steel) for disposal or recycling. Personnel from EQIS mobilized to the Site on January 9, 2006 and proceeded to collect characterization samples from 119 drums confirmed to contain waste materials. Additional drums were determined to be empty by EQIS on January 10, 2006 while collecting samples. Drum sampling was concluded on January 13, 2006. Based on the resultant "fingerprint" analysis and PCB screening results, the drums were segregated and assembled for disposal shipping. Additional drums of waste were generated due to the suggested management of various tank contents. A summary table presenting the analytical results from the "fingerprint" analysis and proposed waste management options for each drum is presented as Table 6.4. A summary table of disposal information for these wastes is presented in Table 6.5.

Additional details on the management of the tank contents are provided in Appendix A of this report. Also, copies of various disposal-related documentation generated during the waste management process are included as Appendix B of this report.

6.4.4 STRUCTURE DISMANTLING/DEMOLITION ACTIVITIES

This subsection discusses the actions completed in the removal of the aboveground features located at the Site, primarily in or between the EZ 4 and EZ 5 Work Zones. Each aboveground structure identified for removal was demolished and the resultant materials processed accordingly. Brandenburg decommissioned each structure prior to demolition. Decommissioning actions included inspecting, cutting, purging all pipelines, abating all ACM where present, removing all insulating material, and decontaminating structure surfaces.

6.4.4.1 GENERAL

The RAWP identified several structures present at the Site that required removal. These structures included several one-story metal and frame buildings, trailers, process equipment, piping, ASTs, and miscellaneous items related to the buildings and process equipment. Each item identified for removal was decommissioned and removed as part of the Solids RA. The following sections summarize the actions taken to remove the structures from the Site. Brandenburg prepared a Demolition, Dismantling, and Staging Plan (Demo Plan) for the Site describing methods, equipment, and subcontractors Brandenburg would utilize during demolition activities.

6.4.4.2 ABOVEGROUND PIPING

The nature of the past Site solvent recovery/distillation operations resulted in a network of process piping being present at the Site. One of the specified tasks for completing removal activities was the removal of aboveground process piping from the Site. The removal of aboveground piping at the RRG/Clayton Site began on December 19, 2005, with the demolition of the pipe bridge between the EZ 4 and EZ 5 Work Zones. Approximately 3,250 feet of aboveground piping was removed, drained, and hauled off Site for recycling between December 5, 2005 and March 30, 2006. This material was included in the quantities of recovered scrap steel from all facility demolition activities. Table 6.6 presents the various dates and quantities involved with these shipments.

Additional information on the dismantling and decommissioning of the aboveground piping at the Site is presented in the monthly Status Reports included as Appendix A.

6.4.4.3 ASBESTOS ABATEMENT

These activities were discussed briefly in Section 6.3.4. Additional details are presented in this subsection, as well as in Appendix A of this report

An asbestos abatement plan was included in the various activity plans submitted by Brandenburg. On December 7, 2005 Brandenburg began asbestos abatement activities in the laboratory portion of the main office building located in the northwest corner of the Site. The countertops and fume hoods had been determined to be ACM in the asbestos survey completed on November 4, 2005, by PSC. Asbestos abatement activities continued on December 12, and 13, 2005, with Brandenburg demolishing a tower that had ACM-insulation wrapping and the roof of the former break trailer, respectively.

6.4.4.4 PROCESS EQUIPMENT

Among the process equipment decommissioned by Brandenburg as part of the Solids RA activities was the small boiler from the one-story metal frame building in the northeast quadrant of the EZ 4 Work Zone (see Figure 2.2). On December 20, 2005 when the building was demolished, the used oil inside the burner (approximately 25 gallons) was drummed, and then the boiler unit was decommissioned. Other features within the

EZ 4 Work Zone were subsequently demolished. The completion of the process equipment removal phase was on March 14, 2006 following the demolition of the boiler building located in the EZ 3 Work Zone and the subsequent removal of the boiler unit.

Additional details on the removal and decommissioning of process equipment located at the RRG/Clayton Site are contained in the monthly Status Reports included as Appendix A of this report.

6.4.4.5 TANK FARM INVESTIGATION

On March 28, 2006, OSC Kevin Turner and Fernando Carou of The Respondents' Technical Committee conducted an inspection pursuant to Sections 3.1, 3.2, and 3.3 of the RAWP of the areas where process equipment had been located, preventing sampling during the RSE. As a result of the inspection, OSC Turner requested that subsurface soil samples be collected within the tank farm area at the south-central portion of the EZ 4 Work Zone. Tanks 11 – 14 were formerly located at this tank farm and OSC Turner requested the sampling to demonstrate that contents from these tanks had not impacted Site soils. It was agreed that locations would be randomly selected along the lengths of the former locations of tanks 11, 12, and 14 (tank 13 was still in place). As no sampling of this area had been completed during the RSE (samples were collected at the edges of the area – see Figure 6.2) and there was no sign of stained surface soils, CRA was instructed to collect overburden type samples to verify potential soil impact. On March 31, 2006, Brandenburg excavated three locations within the tank farm area to facilitate the collection of near-surface confirmatory samples. Four soil samples, including one QA/QC duplicate, were collected from these locations and submitted for PCB and VOC analysis. A figure showing the approximate excavation locations was presented as an attachment to Status Report #6 (see Appendix A).

Following the review of the analytical results from the March 31, 2006 samples, additional excavation was performed at the GC tank farm area sample location, with roughly 70 cubic yards of soils being removed. Four sidewall samples and one QA/QC duplicate sample were collected and submitted for analysis. A review of the analytical results from the second excavation and sampling effort confirmed that closure was achieved for the east and south walls of the GC excavation. Analyte concentrations above the applicable IEPA SROs were noted for the north (three analytes) and west (one analyte) wall sample locations. However excavation progress was precluded along the north wall by the asphalt surface along the edge of the excavation area. The excavation was not expanded to the west since analytical results from both the GA and GB samples

from March 31, 2006 indicated that soils within the tank farm area were not impacted. A summary of the analytical results from the collected samples is presented as Table 6.7. Additional details on the April 28, 2006 activities are presented in Attachment A of Status Report #7 (see Appendix A). The GC excavation was subsequently backfilled on December 21 and 22, 2006.

6.4.4.6 TANK FARM CONTAINMENT WALLS

Brandenburg removed the majority of the vertical concrete walls from the concrete containment areas surrounding the tanks farms during the week of January 2, 2006. The resultant debris was staged at various locations across the Site pending analysis and the location/determination of a suitable disposal or recycling facility. Following the receipt of acceptable sample results, 16 loads of concrete debris were shipped to the Surmeier and Surmeier Aggregate Recycling Center in Mascoutah, Illinois on two separate dates as construction and demolition waste.

Additional information regarding the demolition and shipment of the concrete walls is presented in Appendix A.

6.4.4.7 BUILDING DEMOLITION

Building demolition activities began on December 20, 2005 with a one-story metal frame building located in the EZ 4 Work Zone and ended on March 13, 2006 with access to the boiler unit in the one-story metal building located in southeast corner of EZ 3 Work Zone (see Figure 2.2). Demolition activities were completed on March 14, 2006, followed by the removal of the boiler unit.

Details regarding these activities are presented in Appendix A.

6.4.4.8 MISCELLANEOUS MATERIAL REMOVAL

During the completion of the Solids RA at the RRG/Clayton Site, several types of miscellaneous materials were encountered and/or generated. Among these were construction and demolition (C&D) debris, several boxes that contained bottles of what appeared to waste characterization/compatibility samples related to the former Site operations, and various laboratory chemicals. These materials were assembled by

Brandenburg personnel, as needed, and arrangements were made for the proper disposal of the material.

Construction debris created during the demolition of the tanks, vessels, buildings, and aboveground process piping was placed in roll off boxes, profiled for waste disposal purposes, and shipped to Milam Landfill in East St. Louis, Illinois. A total of 14 roll off containers (approximately 128.7 tons) of this type of materials were shipped between February 8, 2006 and June 29, 2007.

The boxes of assumed waste characterization samples were noted in the Drum Building during the November 4, 2005 contractor Site reconnaissance. At least 130 boxes, each estimated to contain 16 samples, were located at the southeast corner of the Drum Building on shelves within a contained area. Brandenburg contacted Veolia regarding the disposal of this waste stream, and it was determined that the collection of characterization samples from the sample bottles would be impractical for a variety of reasons. Subsequently, Veolia agreed to accept the materials into the Veolia Port Arthur, TX facility based on the possible waste codes that might apply to the material based on known materials that had been accepted at the Site. On June 29, 2006, the boxes were placed into six one-cubic yard cardboard Gaylord boxes (an estimated 6,000 pounds) for transport by Veolia personnel. These Gaylord boxes were shipped off Site on June 30, 2006.

Several bottles of laboratory reagents and chemicals were identified in the laboratory portion of the office/laboratory building during the chemical sweep completed at the Site during the week of December 5, 2005. These chemicals were subsequently relocated to the Drum Building on December 7, 2005 to facilitate asbestos abatement activities in the laboratory. On October 25, 2006, Veolia personnel completed overpacking actions for the assembled chemicals. Approximately 565 pounds of materials, which included two cylinders (compressed methane, and compressed propane) and an aerosol can, were then shipped off Site for disposal at the Veolia Trade Waste Incinerator (TWI) facility in Sauget, Illinois or the Veolia Controlled Waste Division (CWD) facility in Menomonee Falls, Wisconsin.

Additional details on the disposal activities for these materials are presented in the Status Reports included as Appendix A of this report. Copies of the waste shipment documents for these materials are included as Appendix B.

6.5 SUBSURFACE WASTE REMOVAL ACTIVITIES

This subsection will present information related to the removal of subsurface materials encountered during the performance of the Solids RA activities at the RRG/Clayton Site.

6.5.1 UNDERGROUND PIPING

During the Solids RA, CRA and Brandenburg were tasked to drain any residual liquids, solids, or sludges from any encountered buried or underground process piping. Following material removal the encountered piping could be left in place. On January 20, 2006, Brandenburg uncovered the first buried feature at the RRG/Clayton Site when a section of apparent process piping was discovered while completing the paint waste program at the TP #56 location. No liquid or sludge was noted inside the piping and it was placed with other recovered metal for recycling.

Several drain tiles and apparent discharge pipes were encountered while excavating the GP-2 location. Among these pipes was a clay drain tile that was broken during excavation on March 28, 2006. The released liquid from the broken pipe did not have a visible sheen, nor contain any unusual discoloration. Brandenburg repaired the pipe before excavation continued and the released liquids were absorbed by the floor of the excavation before it could be pumped out. Additional buried piping was encountered as the GP-2 excavation was enlarged. These pipes were checked for the presence of liquids, were found to be free from residual liquids or sludges, and were left in place in accordance with the RAWP directives.

Additional underground process piping was found during the excavation of soils at the GP-15 location at the northeast quadrant of the EZ 4 Work Zone on March 30, 2006. These pipes were not found to contain any residual liquids or sludges, and were left in place. Additional underground piping was discovered during excavation activities at the GP-5 location. These pipes were also found to be free of residual liquids or sludges, but were subsequently excavated and stockpiled with the removed soils on April 5, 2006. Underground process piping was also identified on March 31, 2006 while collecting soil samples from the tank 11 – 14 tank farm area. Additional process piping was unearthed primarily between the northwestern portion of EZ 4 and the southwest portion of EZ 5. These pipes contained liquids which were drained, and the pipes were removed, flushed and staged for recycling.

A total of roughly 700 feet of underground process piping were removed during the Solids RA. Additional information on the discovery and management of underground process piping from the RRG/Clayton Site is provided in Appendix A.

6.5.2 SOIL EXCAVATION ACTIVITIES

The management of impacted and potentially impacted soils at the RRG/Clayton Site was a key component of the Solids RA. Based on the activities performed during the RSE, CRA was tasked with overseeing the completion of excavation activities at eight locations, the collection of nine overburden/near surface samples and the confirmation of paint waste at 47 other locations. The soils related activities were carried out in two programs - the paint waste confirmation, which was completed between January 18 and 23, 2006 (46 locations), and the chemically-impacted soil excavation, which was completed between March 20 and May 12, 2006 (15 locations). For both programs, CRA and Brandenburg estimated the locations from the RSE to the best extent possible. Input was also sought from the START representative during the selection of the locations. It should be noted that only 57 test pit locations were documented in the 2001 RAR although the shown locations included the location of test pit #59 (locations 9 and 10 are not shown). The approximate locations involved in the soil-related activities at the Site are presented on Figure 6.2. Figure 6.3 presents the locations of the resultant excavations created during the performance of the soil-related activities.

6.5.2.1 PAINT WASTE CONFIRMATION ACTIVITIES

Soil removal activities were initiated during the week of January 16, 2006. Brandenburg completed 46 test pits to determine the presence of Site soils impacted by paint waste. These test pits were completed under the guidance or observation of CRA and either START member Tom Binz or Ron Carroll of Tetra Tech.

For the paint waste program, an initial excavation area roughly 6 feet square by 5 feet deep was created at each location. A PID was used to screen for the presence of VOCs within the excavation, in addition to the completion of the visual inspection of the sidewalls of the area. Similarly to the selection of the locations, input was sought from the START observer prior to backfilling each excavation if no evidence of paint waste was noted. During the paint waste confirmation program, four (TP #4, TP #25, TP #34, and TP #46) of 46 locations were found to have evidence of paint-impacted soils. These excavations were subsequently expanded until no visual evidence of paint waste could

be noted. A total of approximately 30 cubic yards of soil and material were excavated at these locations and stockpiled for off-Site disposal. These soils were later characterized and were included with the non-hazardous Site soils that were disposed of at Milam Landfill.

On February 16, 2006, OSC Turner visited the RRG/Clayton Site. During the second of two Site reconnaissances with START Tom Binz, CRA recapped the activities that had been completed during the performance of the paint waste confirmation program. OSC Turner subsequently stated that he expected the paint waste confirmation program to go beyond the discussed actions from the RAWP and evolve into a more comprehensive Site Assessment program with additional locations and the collection of samples from paint waste locations. During a later discussion regarding the basis for OSC Turner's request, START Binz explained to CRA that IEPA had authored a Site Inspection report, known as the Grant-Noblitt report, that discussed former process areas and spill locations at the RRG/Clayton Site. The proposed expanded paint waste confirmation program/comprehensive Site Assessment would more fully determine the impact of these past activities on Site media, and, therefore, allow for a more complete removal action to be performed. The subsequent review of the Grant-Noblitt report revealed that historic process areas at the RRG/Clayton Site were located such that they overlapped/coincided with impacted areas identified in the RSE, but indicated a larger potential area of impact than anticipated from the RSE data.

6.5.2.2 EXCAVATION ACTIVITIES FOR CHEMICALLY-IMPACTED SOILS

During the 2001 RSE, U.S. EPA and Weston collected a total of twenty-two soil samples from select Geoprobe and test pit locations across the Site. These samples were analyzed for RCRA metals, VOCs, SVOCs, PCBs, pH, total petroleum hydrocarbons (TPHs), and ignitability. The analytical results from these samples provided the basis for the conclusion that a removal action was warranted at the RRG/Clayton Site.

A review of the analytical results determined that nine overburden soil samples should be collected during the Solids RA to determine if near surface impact was present in soils at select test pit (TP #6, TP #24, TP #31, TP #50 TP #54, TP #55, and TP #59) and Geoprobe (GP-5 and GP-12) locations. Additionally, these data indicated that there were eight locations where the presence of near surface soil impact had been confirmed and excavation actions were necessary (GP-2, GP-6, GP-15, GP-20, TP #5, TP #13, TP #44, and TP #47).

It should be noted that the RAWP incorrectly presented the GP-4 location from the RSE as requiring action during the Solids RA. The correct location based on the analytical data was the GP-12 location. This error was noted during the development of the Excavation Activity Plan and the required field adjustment was made.

6.5.2.2.1 TEST PIT LOCATIONS

On March 20, 2006, a total of three test pit excavations were completed to approximate U.S. EPA test pits #47, #31, and #24 (see Figure 6.2). Test pit #47 was excavated to approximately 6 feet long by 6 feet wide and 3 feet deep, and five soil samples were collected. One overburden soil sample was collected from test pit #31. Test pit #24 was excavated to approximately 25 feet long by 25 feet wide and 1 foot deep. Approximately 23 cubic yards of soils were removed and one overburden sample was collected. All samples were submitted to RTI for metals, VOC, SVOC, PCB, and ignitability analysis. The analytical results from the samples collected at the test pit locations are summarized in Table 6.8.

From March 21 to March 23, 2006, Brandenburg excavated U.S. EPA test pit #44. Paint waste impacted soils were encountered, which resulted in the expansion of the planned excavation into test pit #45. The northern extent of the excavation was established as the foundation of the Drum Building. The final excavation was approximately 125 feet long by 30 feet wide and 4.5 feet deep. Approximately 625 cubic yards of soil were excavated. Fourteen soil samples were collected and submitted to RTI for metals, VOC, SVOC, PCB, and ignitability analysis.

Test pits #6, #50, and #55 locations were excavated to facilitate the collection of overburden soil samples on March 23, 2006. These excavations were all backfilled following sample collection as no visual evidence of impacted soils was observed. The collected samples were submitted to RTI for various analyses, including for PCBs and SVOCs.

On March 24, 2006, Brandenburg excavated U.S. EPA test pits #5 (approximately 6 feet long by 10 feet wide and 3 feet deep) and #13 (approximately 6 feet long by 6 feet wide by 3 feet deep). Five confirmatory samples from test pit #5 and four confirmatory samples from test pit #13 were collected and submitted to RTI for metals, VOC, SVOC, PCB, and ignitability analysis. Also, an overburden soil sample was collected from the test pit #55 location on March 24, 2006.

Brandenburg accessed the final chemically-impacted test pit location, TP #59, on March 30, 2006. An overburden sample was collected and submitted for PCB, VOC, and ignitability analysis.

A summary table presenting the analytical results for the various samples collected from the test pit location is included as Table 6.7 of this report. The review of the analytical date for the test pit #50 location led to the re-excavation of that location. No other test pit sample location was found to require additional action following the review of the generated analytical data. As mentioned previously, Figure 6.2 of this report shows the approximate locations of the test pit s.

6.5.2.2.2 GEOPROBE LOCATIONS

The U.S. EPA RSE conducted by Weston in June 2001 identified six Geoprobe locations that required additional review. The locations (GP-2, GP-5, GP-6, GP-12, GP-15, and GP-20) were all excavated and sampled from March 28, 2006 through May 12, 2006. Excavation activities for these locations were initiated on March 28, 2006 at the GP-2 location. The presence of paint-impacted soils led to the expansion of the excavation beyond the planned 6 feet by 6 feet by 3 feet void. Excavation at GP-2 continued on March 29, 2006 before being temporarily suspended. Excavation activities were continued at the GP-6 location (visibly impacted sidewalls, but the presence of a concrete slab prevented additional expansion) and the GP-20 location where visually clean sidewalls were observed. Confirmatory samples were collected from the sidewalls of both locations for analysis. Brandenburg started excavations at the GP-5, GP-12, and GP-15 locations on March 30, 2006, but only completed activities, including sidewall sampling, at the GP-12 and GP-15 locations due to the presence of paint waste and other debris at GP-5. The excavation of GP-5 soils continued on March 31, 2006 and continued intermittently with the excavation of the GP-2 location until May 12, 2006. The expansion of the GP-5 excavation eventually grew to include the excavation created at the TP #50 test pit location.

As the GP-2, GP-5, and TP #50 excavations were increased, additional sidewall samples were collected and the resultant analytical results from these samples led to further expansion of the excavations.

A summary table presenting the analytical results from the samples collected at the Geoprobe locations appears as Table 6.9 of this report. Figure 6.3 presents outlines of the expanded excavation areas at the GP-2, GP-5, and TP #50 locations, in addition to

presenting the locations and outlines of the notable excavations created for the Solids RA activities. Table 6.10 summarizes the quantities of excavated soils shipped off Site during the performance of the Solids RA activities.

6.5.3 SOIL MANAGEMENT ACTIVITIES

This subsection discusses how the excavated soils from the soil-related activities were managed and disposed of by CRA and Brandenburg. The characterization of the stockpiled soils generated from the soil excavation activities performed at the Site from March 20 through May 12, 2006 revealed that Site soils were impacted with both RCRA constituents (primarily VOCs and lead) and elevated PCBs. Discussions with various potential disposal facilities determined that incineration was the only disposal option where the materials could be managed without additional treatment. Additionally, it was discovered that there were no facilities that could accept the materials as is for pre-treatment at the receiving facility prior to disposal. Efforts to determine the best soil management option focused on the combination of on-Site treatment and off-Site options.

6.5.3.1 EVALUATION OF POTENTIAL TREATMENT METHODOLOGIES

Among the treatment methods evaluated by Brandenburg and CRA were:

- Incineration;
- Chemical oxidation to address VOCs and chemical fixation to address lead (two vendor options were considered) followed by off-Site disposal;
- Mobile steam distillation to address the VOCs (two vendor options considered) followed by off-Site disposal;
- Soil vapor extraction to address the VOCs followed by off-Site disposal;
- Soil washing to address both the VOC and lead (chelating agent wash) followed by off-Site disposal;
- Soil milling to address the VOCs followed by off-Site disposal;
- Thermal desorption (regular and low temperature) to address the VOCs followed by off-Site disposal. Regular thermal desorption also offered the potential to achieve on-Site PCB treatment/destruction;
- Long-term on-Site storage of the soils in a designed Waste Storage Building; and

- Factor Remediation Technology, an emerging biological treatment technology suggested by OSC Turner.

From this evaluation, soil treatment using either chemical oxidation or mobile steam distillation emerged as the two leading options. Material samples were provided to EQ and Soil Solutions, Inc. of Winston-Salem, North Carolina to conduct off-Site trials to evaluate the effectiveness of chemical oxidation and steam distillation, respectively. Based on the conducted trials both treatment methods were considered applicable.

Additionally, Brandenburg and CRA completed a field trial to determine if soil milling could be used as an appropriate treatment method to afford VOC reduction. A brief summary of this trial is provided below.

6.5.3.2 SOIL MILLING OF STOCKPILED MATERIAL

During the evaluation of the potential treatment/management option to address the mixed (RCRA and TSCA) waste soils that had been generated during excavation activities, OSC Kevin Turner suggested soil milling as an alternative soil treatment procedure that U.S. EPA Region V had successfully used previously. Subsequently, arrangements were made for CRA and Brandenburg to mobilize to the Site and perform a field trial. This field trial was completed from August 21-25, 2006, and involved the recharacterization of the 15 soil stockpiles at the Site.

During the trial, samples of the material were collected before soil treatment was initiated and after each processing run. Analytical results from the field trial were reviewed and it was determined that soil milling could not produce a dependable reduction in the concentrations of VOCs in the soil stockpiles on a large-scale basis at the RRG/Clayton Site.

A more detailed account of the soil milling activities, including equipment decontamination efforts, and the tabular presentation of the data generated, is provided as Appendix C of this report.

6.5.3.3 CHEMICAL STABILIZATION AND OXIDATION OF SOIL STOCKPILES

After evaluating several soil treatment/management options to address the RCRA/ TSCA soils excavated and stockpiled at the Site, chemical oxidation and lead stabilization were determined to be the most practical means of removing the RCRA component(s) of the waste. EQPMG was contracted by Brandenburg to perform the chemical oxidation/treatment, transportation, and disposal of soils in stockpiles identified with PCB, VOC, and lead contamination. Stockpiles #2, #4, and #5C were treated in place to address the COCs in each stockpile, with the exception of PCBs. Although chemical oxidation did not affect the PCB concentrations in the target material, the treatment allowed the resulting soils to be acceptable for off-Site disposal at a TSCA-approved landfill. EQPMG subsequently subcontracted ReSolution to perform the on-Site supervision of the chemical treatment process and sample collection activities.

The application procedures for chemical treatment of Site soil stockpiles are described in the Soil Treatment Work Plan by EQPMG which was submitted to U.S. EPA on September 28, 2006. U.S. EPA approved the use of the treatment method on November 15, 2006. CRA subsequently submitted a demonstration to the IEPA Bureau of Air related to compliance with the requirements of Title 35 of the Illinois Administrative Code (35 IAC) Section 201 (35 IAC 201) that any new air emission pollutant source must obtain a construction and operating permit. The November 18, 2006 demonstration presented calculations that indicated that no emissions control devices would be needed for the chemical oxidation activities as a result of the potential quantity of emissions that would be generated. Additionally, the demonstration stated that, as a CERCLA-mandated Removal Site, the RRG/Clayton Site was exempted from completing the permit process as long as the substantive permit standards were being adhered to.

Details of specific field activities that took place during chemical oxidation process are provided within the Status Reports included as Appendix A. Also, copies of the disposal-related documentation generated during the waste management process are included as Appendix B of this report.

6.6 WASTE TRANSPORTATION AND DISPOSAL

During the course of removal activities at the Site, several waste streams were generated which, according to the RAWP, required transportation and disposal at off-Site facilities permitted to handle such waste streams. Waste materials were generally staged for profile sampling and disposal on an ongoing basis throughout the course of the project. These materials were then transported from the Site following approval by the disposal facility handling the waste. The following subsections provide further details on the handling and disposal of each waste stream.

6.6.1 SCRAP METAL SALVAGING

Recovered scrap iron and steel was shipped off Site to Grossman. A total of 496.45 tons of scrap metals (iron/steel, stainless steel, and brass) were removed from the Site between December 2005 and February 2007. Table 6.6 presents a summary of the recovered metals shipped from the Site during the completion of RA activities broken down by material type.

6.6.2 CONCRETE RECYCLING

When solvent recycling activities were suspended in 1998, the majority of ASTs being used in Site operations were located inside concrete secondary containment areas or tank farms. Brandenburg demolished the majority of these vertical concrete walls during the week of January 2, 2006 and created stockpiles of concrete debris. J.C. Hauling Company of Millstadt, Illinois was contracted by Brandenburg to haul this material off Site for disposal/recycling. A total of 16 loads of concrete debris were hauled to Surmeier and Surmeier Aggregate Recycling Center in Mascoutah, Illinois on October 9, 2006 (11 loads) and November 5, 2006. No weight information is available for these materials as no disposal invoices were generated.

6.6.3 CONTAMINATED SOILS

A discussion of how contaminated soils from the RRG/Clayton Site were managed has been presented in previous sections of this report. Additionally, Table 6.10 provides a summary of the disposal of these materials broken down by waste classification.

6.6.4 SOLIDS

Hazardous and non-hazardous materials recovered at the RRG/Clayton Site were primarily discovered as either tank contents or drummed wastes. The disposal and/or treatment of these materials have been discussed in previous sections of this report. Additionally, the disposal information for these waste have been provided in Table 6.3 (tank wastes) and 6.5 (drummed wastes).

Some construction and other miscellaneous debris were generated throughout the project. However, these materials were managed as non-hazardous Special Wastes and disposed of at the Milam Landfill facility. Between December 5, 2005 and June 29, 2007, 16 loads of these materials were generated and shipped for disposal. These 16 loads included the shipped asbestos and granulated carbon roll off boxes (one load each). Copies of the waste disposal documents for these shipments are included in Appendix B.

6.6.5 WATER/LIQUIDS

The only liquid wastes managed during the completion of RA activities at the RRG/Clayton Site consisted of potentially impacted stormwater from the bulked contents of tank G8. Plastic sheeting was placed above the accessed G8 tank carcass to prevent stormwater intrusion during the waste profiling process for the material. However, failure of the sheeting resulted in impacted stormwater. This material was decanted from the tank carcass into 14 55-gallon drums. Because the G8 material was hazardous, it was assumed that the impacted stormwater was also hazardous, and it was profiled for disposal at the Veolia Port Arthur, Texas incinerator facility where the G8 tank sludge was scheduled for disposal. Additional details are presented in Table 6.3.

Brandenburg maintained a portable vertical AST at the Site for the intended purpose of storing generated washwater and/or impacted stormwater for the majority of the project duration. However, this AST was never used. Site soil conditions precluded significant long-term stormwater buildup and limited the need for using high pressure washing as a consistent means of equipment decontamination.

6.7 BACKFILLING ACTIVITIES/SITE RESTORATION

Site restoration activities at the RRG/Clayton Site were primarily comprised of the backfilling of the excavations created during the soil removal activities. Originally, a vegetative support layer was to be installed following the backfilling of any/all created excavations. However, this protocol was adjusted since future Site development activities are likely to result in the removal of this layer.

Aggline, a limestone based material, was used as backfill material across the Site. As a result of different future area uses, three different types/sizes of this material were used. Table 6.11 presents the volumes of material, the dates when backfilling occurred, and the excavation area backfilled. Generalized area grading and material compaction activities were completed as a part of the backfilling process.

Additional details on the completed activities are provided on Figure 6.3 and in Appendix A.

6.8 SURVEYING ACTIVITIES

JSE was contracted by Brandenburg to collect survey data at the RRG/Clayton Site to document select activities/features. Primary among the information gathered was location and elevation data for the notable excavations completed in response to the identified chemically-impacted soil locations from the RSE. JSE was also tasked with locating areas of the Site where significant backfilling activities had been performed and locating the groundwater monitoring wells that were installed on behalf of the Sauget Area 2 Group. These activities were completed during Site visits on November 2, 2006 and March 6, 2007. The collected survey data was referenced to the Illinois State Plane Coordinate System.

The survey data from JSE was subsequently used to update the Site figures generated during the LRA. These data are reflected on Figure 6.2, Figure 6.3, and Figure 8.1 of this report.

7.0 ADDITIONAL SITE ACTIVITIES COMPLETED

This section discusses activities performed by The Respondents at the RRG/Clayton Site that were not discussed in or are not directly related to activities from the Solids Settlement Agreement or the RAWP. The execution of these actions was conducted in response to a specific request from U.S. EPA.

7.1 WELL INSTALLATION ACTIVITIES

On April 11, 2006, personnel from URS Corporation visited the RRG/Clayton Chemical Site. They explained that the Sauget Area 2 PRP Group had proposed to U.S. EPA to locate a well nest at the Site to monitor area groundwater conditions. The Respondents contacted OSC Turner, who requested that access be granted for this work.

CRA and URS personnel met at the Site on June 8, 2006 to discuss well installation activities further. URS subsequently installed three wells at the west-central portion of the Site (west of the EZ 4 Work Zone) from June 12 through 14, 2006, with CRA observing the activities on behalf of The Respondents. The installed groundwater monitoring wells were sampled on July 5 and 6, 2006. CRA collected groundwater samples from the installed wells.

Additional details on the well installation and sampling activities are provided in Appendix A. These details include a summary table of the analytical results from the sample event. The locations of these wells are presented on Figure 6.2, Figure 6.3, and Figure 8.1 of this report.

7.2 EZ 4 LOADING DOCK DEMOLITION AND INSPECTION

On October 17, 2006, Brandenburg began demolition activities at the concrete block loading dock structure located at the southeast corner of the EZ 4 Work Zone as part of Site preparation activities to facilitate the installation of a potential RCRA cover system at the RRG/Clayton Site. Upon accessing the structure, it was determined that the interior of the structure contained a combination of soil-like material and rusted drum carcasses. Additional excavation determined that dried paint residue was present in several drum carcasses and that brown-orange sludge was also present at two locations. An 8-point composite sample of the soil-like material was collected for waste profiling purposes, and a sample of the sludge discovered at the northeastern corner of the

loading dock structure was also collected. The area was subsequently secured using reinforced plastic sheeting. A second 8-point composite sample was collected on December 11, 2006 from the soil-like material to obtain additional waste characterization results. Among the results reported for this sample was a flash point of below 60 degrees Fahrenheit (°F), which indicated that the materials were considered hazardous ignitable wastes. A third sample was collected on December 20, 2006 specifically to verify the flash point data from the previous sample. The reported flash point for this subsequent sample also was less than 60 °F. Table 7.1 presents the analytical results for the sampled materials.

On February 6 and 7, 2007, materials from the EZ 4 loading dock, including the concrete walls of the structure, were loaded into eight 20 cubic yard roll off boxes for future disposal. These roll off boxes, which contained a total of 110.34 tons of material, were subsequently shipped from the Site in batches of two on March 6, 16, 23, and 30 for disposal at the Veolia Port Arthur incinerator in Port Arthur, Texas. A total of roughly 110.4 tons of materials was shipped on the 4 dates. Waste shipment information for the materials from the EZ 4 loading dock is summarized in Table 7.2. Additionally, Appendix B includes copies of the waste manifests used for the transportation of these materials.

7.3 SUBSURFACE LIQUID DISCOVERY, REMOVAL AND INSPECTION

Two openings and the presence of subsurface liquids were discovered at the northeast portion of the Site on March 16, and 23, 2007, respectively. In response to these discoveries, The Respondents prepared a Response Work Plan and submitted it to U.S. EPA on April 19, 2007. Following additional dialog with OSC Turner, CRA, Brandenburg, and START mobilized to the RRG/Clayton Site on Monday, June 4, 2007 to begin preparations for the removal of the liquids. Contractual arrangements were made for Veolia Environmental Services to provide liquid removal and transportation services, while disposal services would be provided by the Clean Harbors' Deer Park facility in LaPorte, Texas (CH Deer Park) facility. U.S. EPA approval to use the CH Deer Park facility was granted on June 11, 2007.

On June 5, 2007, approximately 1,500 gallons of an oil water mixture were removed and stored in a vacuum truck provided by Triad Transport, Inc. of McAlester, Oklahoma (Triad) for transport and off-Site disposal. Following the removal of the liquid, a total of five locations were accessed using a jackhammer attachment for an excavator. From these activities, it was concluded that the liquids had been located inside a trench

measuring roughly 95 feet long by 5 feet wide. After expanding one of the openings, it was also discovered that the trench had contained apparent construction debris, in addition to the removed liquids. The debris made it impossible to determine the depth of the trench. The liquids from the trench were then taken off Site for disposal at the CH Deer Park following planned stops at various 10-day interim storage locations operated by Triad and Veolia. The shipped materials arrived at CH Deer Park on June 22, 2007.

Additional details related to these activities, including the analytical results from liquid samples collected on March 16, 2007 and June 5, 2007 are provided in Status Report #20 which was submitted to U.S. EPA on July 2, 2007. A copy of this report is included in Appendix A of this report.

7.4 WASTE DRUM STORAGE BUILDING LOADING DOCK INSPECTION

An inspection of the loading dock structure associated with the Drum Building at the Site was completed by CRA and Brandenburg from June 4 through 6, 2007. The Drum Building dock inspection activities were completed in accordance with conditions presented in a work plan approved by OSC Turner on March 21, 2007.

On June 4, 2007, CRA selected eight random locations across the surface of the loading dock structure with the intention of adequately characterizing the material within the structure. Using a hydraulic vertical coring device, Brandenburg, at the direction of OSC Turner, removed cores from the five locations closest to the edges of the dock on June 5, 2007. OSC Turner further directed that, pending a visual inspection on June 6, 2007, additional actions would be taken to access these locations using a hand auger. Two of these locations were further accessed to a minimum depth of 40 inches below the grade of the slab. Based on the visual inspection of the recovered materials, OSC Turner determined that the dock structure did not contain any drums or contaminants that required further action. Subsequently, Brandenburg was instructed to repair the cored locations on June 6, 2007.

Additional details related to these actions are provided in Status Report #20 which was submitted to U.S. EPA on July 2, 2007. A copy of this report is included in Appendix A of this report.

8.0 CURRENT SITE CONDITIONS

As of June 29, 2007, the RRG/Clayton Site has been significantly changed in comparison to Site conditions when initial mobilization for the Solids RA phase took place on December 5, 2005. All materials previously stored in tanks and drums at the Site have been removed, processed, and shipped off Site for disposal. The majority of the aboveground Site features (tanks, buildings, tank farm containment walls, process equipment, and piping) have been demolished and removed to affect the Site's vertical profile. Currently, the most prominent remaining Site features consist of the office/laboratory building, the Waste Drum Storage Building, the concrete tanks pads and containment area floors for the EZ 4 and EZ 5 Work Zones, and the foundations of the buildings removed during either the Liquids or Solids RA. This is reflected on Figure 8.1, which depicts the Post-Solids RA conditions at the Site.

The following tasks have been completed since Brandenburg and CRA mobilized to the Site in December of 2005 to perform RA-related actions:

- All of the tanks previously located at the Site have been demolished and removed;
- The drummed waste that existed prior to mobilization and which was generated during the completion of the RA have been assembled and shipped off Site for disposal;
- All aboveground process piping (more than 3,200 feet) and process equipment have been decommissioned and shipped off Site for disposal;
- More than 700 feet of encountered below ground process piping have been drained, removed and shipped off Site for disposal. Additional below piping was left in place after being checked for the presence of residual material;
- With the exceptions of the office/laboratory building at the northwest portion of the Site, the Waste Drum Storage Building located in the west-central portion of the Site, and the former discharge sampling building located at the northeast corner of the Site, all buildings that were in place following the completion of the LRA activities have been demolished;
- Areas identified during the paint waste program completed by U.S. EPA and Weston during the 2001 RSE were further reviewed through excavation efforts. In instances where paint waste impacted soils were encountered, they were excavated and shipped off Site for disposal;
- The locations of chemically-impacted soils from the 2001 RSE that warranted additional work were accessed and the soils sampled and/or excavated where

possible. These excavated soils were shipped off Site for disposal as PCB-containing waste after undergoing chemical treatment as needed;

- The concrete containment walls for the tank farm areas across the Site have been demolished and the material shipped off Site for disposal with the exception of those walls left in place for the equipment decontamination pad and at the former fuel oil tank pad adjacent to the Site's entrance gates;
- All salvageable materials recovered during the completion of the RA activities have been processed and shipped off Site for recycling; and
- Debris present at the Site during mobilization has been consolidated and shipped off Site for disposal as non-hazardous waste.

A collection of select photographs taken during the performance of the Solids RA activities at the RRG/Clayton Site is presented in Appendix D.

9.0 SOIL AND WASTE SAMPLING

A significant amount of environmental sampling was performed during the completion of the Solids RA activities at the RRG/Clayton Site from December 5, 2005 through June 29, 2007. The generated data came from waste characterization samples, waste delineation samples and confirmatory samples. Some of these analytical results are provided in the data/summary tables included with this Report, while all of the analytical results are contained in the copies of the monthly Status Reports included as Appendix A.

Overall, the analytical results from the drum and tank contents confirmed that a mixture of hazardous and non-hazardous waste were stored at the RRG/Clayton Site at the time of CRA and Brandenburg mobilization on December 5, 2005. Those data were used to properly characterize and profile the wastes for proper off-Site disposal.

As presented in Tables 6.8 (test pit locations) and 6.9 (Geoprobe locations), confirmatory soil sample data demonstrate that chemically impacted soils have been removed from the Site, with the exception of the GP-2, GP-5, and TP #50 locations. Similarly, the evaluation samples collected at the Site following the soil treatment process demonstrate that RCRA contaminants were successfully removed. These data qualified the resultant soils to be disposed of as PCB-containing soils at a TSCA-approved disposal site. The analytical results for the resultant soils from the chemical oxidation process appear in Status Reports 14 and 15 of Appendix A.

9.1 GENERAL

As discussed previously, three independent laboratories have been used throughout the project. Those laboratories were RTI, STL – St. Louis, and TEK-Lab. All three laboratories are NELAP certified facilities. However, quality assurance (QA) documentation was only submitted for RTI and STL – St. Louis as QAPP governed project laboratories. No QA data was supplied for TEK-Lab since only waste characterization samples were submitted to TEK-Lab for analysis.

Additionally, analytical data have also been generated by the on-Site laboratories for the Veolia Trade Waste Incinerator (Veolia TWI) facility in Sauget, Illinois and the EQ Wayne Disposal facility in Belleville, Michigan. The data generated by these facilities were generated to facilitate waste profiling and acceptance of various waste streams for disposal.

9.2 WASTE CHARACTERIZATION SAMPLES

Waste characterization samples were collected during the project to facilitate the disposal of the assembled hazardous and non-hazardous tank and drum contents that were present at the Site upon mobilization, as well as waste materials generated during the performance of Solids RA related actions.

The samples were collected from the following sources in general chronological order: tank contents (December 2005 – March 2007), drum contents (January 2006 – March 2007), stockpiled soils (March 2006 – January 2007), and miscellaneous non-hazardous waste (February 2006 – June 2007).

9.3 DELINEATION AND CONFIRMATORY SAMPLES

Soil sampling activities began in March of 2006 following the submission of the QAPP to U.S. EPA for review. Soil excavation was initiated on March 20, 2006 for the test pit locations from the 2001 RSE sample. With the exception of test pit #59 location, all applicable actions were initiated and/or completed for these locations between March 20 and 24, 2006. The overburden sample required at test pit #59 location was collected on March 30, 2006. Additional excavation and sampling activities were performed for test pits #6 (April 18, 2006), #50 (April 4, 2006) and #54 (April 21, 2006).

Excavation activities for the RSE Geoprobe locations began on March 28, 2006 at the GP-2 location and continued intermittently though May 12, 2006. However, sample collection activities were completed between March 29 and April 11, 2006. Compliant sample data results were obtained for the GP-12, GP-15, and GP-20 locations. Sample results and the presence of paint-impacted soils led to the expansion of the GP-2 and GP-5 excavations significantly beyond the intended volumes with accompanying interim sidewall samples being collected. As a result of the inability to project where closure conditions would be encountered for these excavations, The Respondents subsequently proposed to install a RCRA-equivalent landfill cover system over the central portion of the Site as an alternative to continued excavation and subsequent soil management activities. This proposal discussing the conceptual landfill cover design was submitted to U.S. EPA for review on September 28, 2006.

9.4 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Throughout the completion of soil excavation activities at the RRG/Clayton Site, the required QA conditions presented in the QAPP were followed by the sampler(s) involved. The analytical results presented in Table 6.7, Table 6.8, and Table 6.9 indicated where duplicate samples were collected, submitted, and analyzed.

10.0 PROBLEMS ENCOUNTERED/UNFORESEEN CIRCUMSTANCES

This section discusses the difficulties experienced during the completion of the tasks and activities mandated in the Solids Settlement Agreement and proposed in the RAWP. Those experienced challenges could generally be placed into the following classifications: disposal difficulties, laboratory issues, and soil treatment uncertainties.

10.1 DISPOSAL DIFFICULTIES

After soil excavation activities were initiated at the RRG/Clayton Site in March of 2006, field conditions resulted in the generation of significantly more material than anticipated from the analysis based on the 2001 RSE. With the continued generation of soil stockpiles, material characterization samples were collected to facilitate the off-Site disposal of these materials. The analytical results from these samples revealed that the generated stockpiles contained RCRA hazardous levels of VOCs and/or lead in addition to TSCA qualifying concentrations of PCBs.

Research into appropriate disposal facilities to manage this waste stream revealed that select hazardous waste incinerators were the only facilities that could receive the waste without it being treated prior to shipment. However, the proposed disposal costs from these incineration facilities were cost prohibitive.

Subsequently, CRA began researching alternative soil management options that involved a combination of on-Site treatment followed by off-Site disposal. This research quickly led to the realization that on-Site treatment of soils to remove PCBs was not practical. Subsequent efforts focused on on-Site treatment options to address the presence of VOCs. Several possible scenarios were explored including soil milling, chemical oxidation, low temperature thermal desorption, and steam distillation. A soil milling field trial was conducted at the Site, but the process was determined not to provide predictable treatment results. Chemical oxidation and stabilization were determined to be the most practical choices for the Site.

The evaluation of these treatment alternatives led to the suspension of continuous on-Site operations between May and October of 2006.

10.2 LABORATORY ISSUES

During the initial contractor procurement phase of the RRG/Clayton Solids RA, RTI was selected as the designated project laboratory. Among the conditions stipulated for project participation was to provide analytical results in a reasonable time frame. Upon initiating the soil excavation and sampling activities, it became evident that RTI could not produce analytical data from the submitted samples in a manner that facilitated the timely execution of the soil removal phase of the Solids RA. Subsequently, The Respondents petitioned OSC Turner on April 7, 2006, to approve the STL-St. Louis facility as an additional designated project laboratory. Approval of this request was granted on April 20, 2006.

Initially, STL-St. Louis provided analytical data for the submitted soil samples within an acceptable time frame (5 -7 business days). However, turn around time again became an issue during the completion of the soil milling field trial in August of 2006. For the field trial, samples were collected from August 21 through 23, 2006. These samples were delivered to the laboratory on the dates of collection for analysis. For a variety of reasons, the finalized analytical data reports for the collected samples were not received by The Respondents until September 11, 2006, or 21 calendar days after the delivery of the first sample. The data review process for the field trial and the subsequent selection of an appropriate soil treatment methodology was therefore delayed, with the eventual decision to employ chemical oxidation and stabilization being made in September 2006.

10.3 SOIL TREATMENT ISSUES

As stated previously, chemical oxidation and stabilization were eventually selected as the soil treatment methods of choice for the RRG/Clayton Site. However, despite the completion of bench scale studies prior to field implementation of the method, certain issues arose in the field.

The first phase of the treatment activities involved the processing of the material from Stockpile #2 for lead stabilization. EQ and its treatment consultant, ReSolutions, Inc., selected EnviroBlend, a magnesium oxide-calcium phosphate based material, as the reagent for the stabilization effort. Stabilization efforts were completed on October 3, 2006 with the EnviroBlend being mixed with the soil using the bucket teeth and tracks of a front-end loader and the bucket of an excavator. Soil samples were collected after the completion of the treatment process to evaluate the effectiveness. A review of the resultant analytical data revealed that the lead levels in the soils had adequately

stabilized/been immobilized. Unfortunately, the levels of trichloroethense (TCE) and tetrachloroethene (PCE) which had previously been below RCRA hazardous thresholds were elevated to RCRA hazardous levels following the EnviroBlend application. Subsequently, these soils were additionally processed using potassium permanganate for VOC removal/reduction purposes.

Implementation of the chemical oxidation phase began on November 20, 2006, following process approval from U.S. EPA on November 15, 2006. Some batches of processed materials achieved the required reductions in TCE and PCE concentrations after one treatment session while others required multiple applications of potassium permanganate. Additional details of the soil treatment process are provided in the Status Reports included as Appendix A corresponding to the affected timeframe (October 2006 through January 2007).

11.0 CONCLUSION

This section presents an overall summary of the completed tasks and activities from the RA and presents an opinion of the degree of success achieved through the performance of the discussed actions.

As of June 29, 2007, CRA and Brandenburg, on behalf of The Respondents, have substantially completed the required/mandated RA actions presented in the Solids Settlement Agreement and proposed in the RAWP. Among the benchmarks/highlights achieved during the completion of the field phase of the project were:

- More than 3,900 tons of soils were excavated and shipped off Site for disposal;
- Almost 1,000 tons of soils were successfully treated by chemical oxidation and stabilization to remove RCRA-qualifying concentrations of lead and VOCs;
- 70 ASTs and aboveground storage vessels were demolished;
- More than 3,900 linear feet of process piping, including roughly 700 feet of recovered underground piping, were removed and processed for off-Site recycling;
- 41 loads (more than 496 tons) of recovered metals (iron/steel, stainless steel, and brass) were recovered and shipped off Site for recycling;
- 15 yd^3 (2.08 tons) of ACM were removed and disposed of;
- 182 containers of hazardous and non-hazardous tank wastes, including 118 55-gallon drums of tank solids, 14 55-gallon drums of impacted stormwater, 39 20-yd^3 roll off boxes (301.8 tons) of solidified non-hazardous materials, and 11 roll off boxes of hazardous tank solids, were shipped off Site for disposal;
- 104 containers of drum contents, including a 20-yd^3 roll off box (3.67 tons) containing granular carbon from 22 55-gallon drums, were shipped off Site for disposal;
- Almost 129 tons of C&D wastes (not including asbestos and concrete debris) were accumulated and shipped off Site for disposal; and
- Almost 4,100 tons of granular backfill were installed at the Site to restore the created excavations to pre-mobilization conditions/elevations.

These activities are clearly reflective of the general directive from the Solids Settlement Agreement and RAWP for the assembly and removal of aboveground and subsurface wastes from the Site. Based on the volume of materials discussed, the potential risk that materials present at the RRG/Clayton Site that could have a negative impact on human health and the environment has been significantly reduced. All of the materials

previously contained in drums and tanks located at the Site have been removed, thereby eliminating the most immediate alleged threat posed by Site materials. The list of wastes listed above clearly indicate that the overall requirements of the Solids Settlement Agreement to "characterize, remove and properly dispose of …wastes… located at the Site" has been achieved. Similarly, the list demonstrates that compliance with the directives from the RAWP for the removal of surface and subsurface wastes from the RRG/Clayton Site has been achieved.

Among the specified threats presented in the Solids Settlement Agreement for the Site was the migration of surficial soil contamination (see Section V, Condition 10.f.iv and v). The soil-related activities completed at the Site (excavation and sampling) have demonstrated the mitigation of those alleged threats. Through the collection and analysis of overburden soil samples at various locations across the Site, The Respondents have determined that near surface soils do not contain levels of potential COCs at concentrations above the TACO SRO values, i.e., the surface soils at the Site do not pose an immediate dermal contact hazard or threat to surrounding populations. Additionally, the excavation of identified chemically-impacted and/or paint waste-impacted soils at the Site removed the potential threat posed by those materials for surface contact and/or migration via stormwater runoff, stormwater infiltration, or wind transport.

The Solids Settlement Agreement also mentions the presence of ignitable substances at the Site (see Section V, Condition 10.f.vi). The potential risk posed by any ignitable substances identified during the RSE has been eliminated at the Site through the removal of all tank and drum contents previously located at the Site, through the excavation of impacted Site soils, or through the demonstration by analytical soil sample results which demonstrate the absence of any ignitable materials or substances.

As discussed in Section 7 of this report, The Respondents completed several actions at the RRG/Clayton Site that were outside of the original Scope of Work and task list presented in the RAWP and Solids Settlement Agreement, respectively. These activities involved the removal and off-Site disposal of in excess of 160 cubic yards (110.34 tons) of material from the EZ 4 loading dock structure that was determined to be characteristically ignitable and which had not been previously identified as being present at the Site. Similarly, approximately 1,500 gallons of liquids were discovered and removed from a subsurface structure located at the northeast quadrant of the Site. Again, this material had not been identified during the RSE and represents an out of Scope action.

12.0 CERTIFICATION

"I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

10/4/07

Date